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ADDRESS.

LIFE AND TIMES OF DOCTOR REUBEN D. MUSSEY.

Public address, by invitation, to the Graduating Class of the Ohio Medical University, Columbus, Ohio, March 17, 1896.

BY JOHN B. HAMILTON, M.D., LL.D.
CHICAGO.

Mr. President, Ladies and Gentlemen:—I thank you for this gracious reception and your kindly words of introduction. But I do not feel like a stranger in this great State of Ohio. My great-grandfather, a Revolutionary soldier, settled at Point Harmar, subsequently helped defend the Territory against the Indians, and was a member of the Second Legislative Assembly of this State. My mother was born on the beautiful banks of the lower Muskingum, and my grandmother on my father's side was the daughter of Captain Benjamin Brown, one of the earliest settlers of Athens County, and whose numerous descendants still inhabit the Ohio River Valley. Therefore, in speaking in this famous Capitol, to this distinguished audience, I feel that I have a closer personal interest in this people than my friend Dr. Reed was aware of when he asked me to address you on this occasion.

Nothing interests the average man so much as himself, or the affairs of his immediate neighbors, and I have therefore chosen as the subject of my address this evening, the life and times of one of the most learned and distinguished of the sons of the Buckeye State, namely, that of Professor Reuben D. Mussey, of Cincinnati. It is true that he was only an adopted son of Ohio, but he was one of the earlier educators of the medical men who now constitute the glory and pride of its medical profession. His teachings and his example have therefore become a part of the intellectual property of his immediate pupils; their associates and successors.

Biography has ever been considered one of the most fascinating branches of historical study, not only on account of the particular life chosen as the topic, but on account of its ennobling and stimulating effect on those within its influence. We naturally desire to emulate the virtues of our hero, and the record of his achievements stimulate the ambition to the performance of greater deeds, if possible.

The life of a great surgeon is full of scenes of pathos, of memories of triumphs over disease, of critical and anxious moments, of occasions where human life literally depends upon a thread and of times when boldness, courage, skill and gentleness are each in turn called into play. In lauding the science of biography, the elder D'Israeli takes exception to the statement of a periodical critic, that there was "something melancholy in the study of biography, because it is a history of the dead." He designated as "sentimental biography" that variety of biographic writing which seeks only eulogy, which is usually compiled "by some domestic friend, or by some enthusiast who works with love." It is distinct from a *chronologic* biography, for it searches for the individual's feelings amidst the ascertained facts of his life; so that facts which occurred remotely from each other are at once brought together. This "sentimental" is distinguished from the *autobiography* which being in the hands of an interested, if not a suspected witness, is not always trustworthy history.

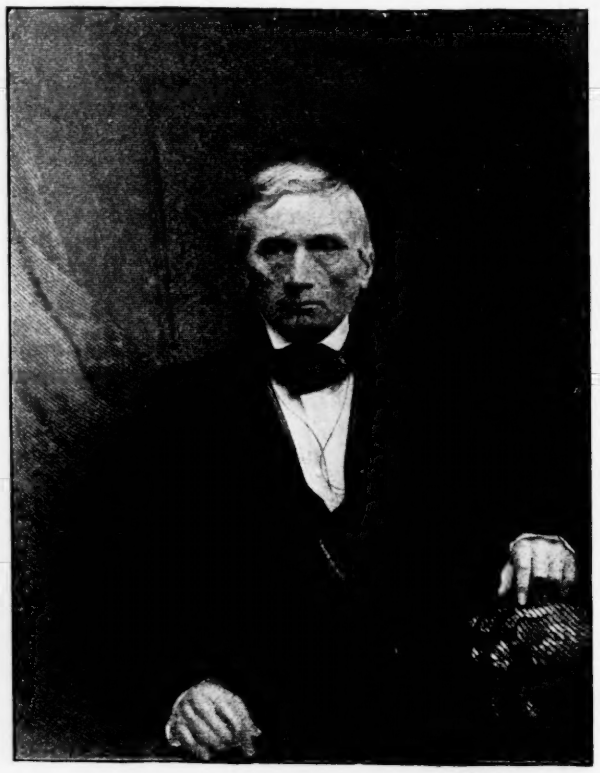
To point the moral of the story of such a life as that of Professor Mussey it is not necessary to be either sentimental or unduly eulogistic. The period of his life covers the most interesting period of the history of surgery, and he himself was a factor in the speedy popularization of the greatest discovery in its relations to practical surgery, of any in all antecedent history, namely, that of anesthesia. The famous Professor South, of London, writing a postscript to Chelius' Surgery in 1847, says:

"The year 1846 seems in a fair way to be known as the *annus mirabilis* of surgery. The profession and the public in both hemispheres are in a complete ferment, consequent on the discovery by Morton, an American dentist, of a mode of producing insensibility during which an *operation may be borne without pain*, nay, even rendered so agreeable as to induce a desire for its repetition."

What a change was brought about! Before the days of anesthetics no operation of election was performed without a long course of preparation; spare diet, purging and frequent blood-letting were the means resorted to, to prepare the patient for the ordeal; laudanum or morphia the night before, and large doses of brandy during the operation, and not unfrequently the cries and groans of the patient added much to the terrors of the operation itself. The blood-letting practice had perhaps reached its maximum height in 1832–33, when Mr. Wardrop, a noted London surgeon, in his lectures on surgery published in *The Lancet* gravely proposed that to prevent suffering during an operation a patient should be bled to faintness, and the operation performed during the swoon! Hypnotism, or, as it was then called, mesmerism, was frequently made use of, but South characterized it as "foolery." But starvation diet was then, as now, a favorite hobby, and Sir Astley Cooper told an excellent story of Abernethy, who is said to have prescribed blue pill and ipecac for everything, and "ordered his patients to eat only three ounces a day, and not to drink when they eat. A patient of his said to me, 'I am a proselyte to his doctrines; does he practice what he recommends?' I said, 'I will give you a faithful account of his dinner to-day, for I dined with him at the Free Masons' tavern. I sat next to him. He took turtle and punch, fish, venison, champagne, pastry, cheese and 'now,' said he, 'waiter, give me a glass of brown stout.' 'After this,'" said Sir

Astley, "'he took his wine moderately as we all[1] did.'" The patient on receiving an account of this dinner of Abernethy's, refused any longer to starve himself, and ate and drank to his heart's content ever afterward.

Reuben D. Mussey, M.D., LL.D., was born near Rockingham, N. H., June 23, 1780, and was the son of Dr. John Mussey, who resided in Pelham Township. While yet a child his father removed to Amherst, N. H., and he had the benefit of some instruction in the winter at the district school. His father taught him elementary Latin, and when he was fifteen years old he entered the Aurean Academy at Amherst. In 1801 he entered the junior class in Dartmouth College and was graduated therefrom in August, 1803. He then began the study of medicine as a pupil of Dr. Nathan Smith, the founder of the Medical School of New Hampshire, the father of Nathan R. Smith.



REUBEN D. MUSSEY, M.D., LL.D.
Fourth President of the AMERICAN MEDICAL ASSOCIATION.

Dr. Smith was a man of more than ordinary ability, and one of his biographers states that "no physician either before, during, or since his time has had so wide a sphere of popularity, and he was as well known in our times almost as the resident physicians and clergymen are." His career was characteristic of the times. When he was a youth he enlisted in the Vermont militia and served in the Indian campaign, and by accident having seen a surgical operation, became deeply interested in it and desired to become a surgeon. Consulting Dr. Josiah Goodhue, then considered the most eminent surgeon of the locality he was informed that if he would place himself under the tuition of a person competent to instruct him and obtain as much literary information as would enable him to enter the Freshman class of Harvard College, he would accept him as a student. He followed the advice, placing himself under the care of the Reverend Mr. Whiting, of Rockingham, Vermont, until qualified to comply with the conditions raised by Dr. Goodhue. After studying three years under his preceptor, he began to practice, but finally suspended it and attended medical lectures in Harvard College. Here he received the degree of Doctor of Medicine, and in the organization of the medical institution in connection with Darmouth College the appointment of Professor of Medicine was conferred upon him. Several years after, he went to Edinburgh and attended medical lectures under the illustrious Monro and Dr. Black. On returning he continued his instruction and practice at Hanover, N. H., until the autumn of 1813, when he was made Professor of Theory and Practice of Physics and Surgery in the Medical Institution of Yale College, established in that year at New Haven. Dr. Smith also lectured on the same branches at Dartmouth College, the University of Burlington, Vt., and the Medical Institution of Brunswick College in Maine. So active a professor, and one so popular as Dr. Smith, must have impressed his personality upon Dr. Mussey very strongly, and there is no question but the bent of Dr. Mussey toward surgery was in no small degree influenced by association with Dr. Smith.

Dr. Mussey received the degree of Bachelor of Medicine in 1805 from the Medical Institution of Dartmouth, and began the practice of medicine in Essex County, Mass., at Ipswich. After three years he went to Philadelphia and became a private pupil of Prof. Benjamin S. Barton and attended his botanical lectures, as well as the lectures in the medical course proper. In 1809 he was graduated M.D. from the University of Pennsylvania. He heard the lectures of Drs. Benjamin Rush, Physick, Dorsey, Barton, Woodhouse and Chapman. Dr. Mussey being an indefatigable student and a hard worker, was not inclined to accept all the theories that were offered him without more thorough investigation, and among them he had been taught by Dr. Rush that there was no absorption from the skin. Young Mussey immersed himself in a bath in which three pounds of madder were diffused in sufficient water to cover the body and limbs, and he found this coloring matter in the urine. He repeated his experiment and finally wrote his thesis on the subject of "Skin Absorption," which was received with pleasure, but not with entire approval, for Professor Rush, not willing to be caught in error by one of his own pupils, had several experiments made with the result of only partially proving Dr. Mussey's theory. Dr. Mussey then continued for a long time to conduct experiments for the purpose of proving his theory. Among others, on one occasion he immersed himself for three hours in a strong solution of nutgall, and afterward in a strong solution of iron for three hours more. But this experiment was negative, for no ink was found in the excreted urine. He then opened a vein in his arm for the purpose of testing the blood, but could not discover it, although some peculiar appearances were found which indicated that a change had taken place, due to the absorption of the iron; but he had already proved his main proposition.

After his graduation in Philadelphia, Dr. Mussey returned to Massachusetts and practiced in Salem five or six years, and in 1814 was appointed Professor of Theory and Practice of Physics in the Medical School of Dartmouth College, succeeding his preceptor, Dr. Nathan Smith. Here he gave a course of lectures on chemistry for one session, and in 1819 was appointed

[1] The Life of Sir Astley Cooper, Bart., by Bransby Blake Cooper, London, 1843.

to the Professorship of Anatomy and Surgery, and in knowing Dr. Mussey one could well understand that at this time he conscientiously began anew the study of anatomy in order to give two daily lectures to the pupils during the term.

In 1829 he visited Europe, spent several weeks in London and attended clinics in Paris. Dr. Mussey also lectured in the Medical School of Maine, and in 1836–7, after the close of the session of the College of New Hampshire, he went to Fairfield, N. Y., to give lectures on surgery in the College of Physicians and Surgeons there. This school was subsequently removed to Geneva and afterward became a famous institution.

In the fall of 1838 Dr. Mussey accepted an invitation to become Professor of Surgery in the Medical College of Ohio, at Cincinnati, founded in 1821, and he with his family removed to that city. At this time the means of travel was by canal to Pittsburgh and from Pittsburgh to Cincinnati via boat. Climatic reasons alone induced the popular professor to cross the Alleghenies. His health had become delicate and he, somewhat worn by a long, laborious practice in the cold and rigorous climate of New England, looked favorably on the balmy air of the Ohio Valley and looked forward with pleasure to his new field of labor. For fourteen years Professor Mussey practiced, lectured and taught in the Medical College of Ohio, and during this period had charge of the Marine Hospital in Cincinnati, but at the end of that time he resigned. A few months later he was asked to become Professor of Surgery in the Miami Medical College, founded in 1853, which he accepted, and at this time also had charge of the surgical wards of St. John's Hospital.

Dr. Mussey's first remarkable operation was the ligation of the carotids for aneurysmal tumors of the head in which the operation was successful. He repeated the operation 1854.[2]

This is hardly the place to repeat the brilliant record of Dr. Mussey's important surgical operations. He was one of the early operators for ovarian disease. He removed an hypertrophied tongue in the case of a boy of thirteen, the tongue at the time of operation measuring eight inches in circumference where it issued from the mouth.

Another case of Dr. Mussey was one of osteosarcoma which necessitated the performance of an operation for the removal of the entire shoulder blade and collar bone. This was the second case on record, the first operation having been performed by Dr. Dixi Crosby in 1836. The date of this operation was October, 1837. It was repeated in 1845. He removed the lower jaw without implicating the facial nerve, and it is said by his biographer[3] that "while in charge of St. John's Hospital, then having numbered considerably beyond three-score and ten, we saw him ligate the carotids with the same nerve as when in the prime of life."

An ardent temperance lecturer and one much interested in hygiene, there is no question of the value of his influence and example on the young men of his adopted city and State, not only those who attended his own lectures, but as well those to whom the influence of his pupils reached.

He died in Boston in 1866 at the advanced age of 86 years—years full of fruitful labor, of conscientious work. He was the fourth President of the AMERICAN MEDICAL ASSOCIATION, and always took an active interest in its meetings.

Dr. Mussey was an early advocate of the bilateral operation for stone, and according to the report of the Committee on Surgery in Vol. 1, Transactions of the AMERICAN MEDICAL ASSOCIATION, as early as 1848, he had reported a series of sixteen surgical operations under the use of chloroform,[4] "without its being followed by a single unpleasant symptom."

Dr. Mussey himself made the report of the Standing Committee on Surgery in 1849, and in that report we find an account of a vaginal hysterectomy performed by Prof. Paul F. Eve on April 16, 1850. This is believed to be the first operation of its kind on record. One of the most elaborate papers of Dr. Mussey was that on "The Effects of Alcoholic Liquors in Health and Disease," which will be found in Vol. 8 of the Transactions for 1855. In this paper there is shown an intimate knowledge of physiologic chemistry as then understood and also of the toxic effect of alcohol, very remarkable for that period. He was the first to demonstrate the possibility of bony union taking place in intracapsular fractures of the humerus. In his trip to Europe, which I have already mentioned, he carried with him a specimen of a femur which had been sawn through showing bony union. He showed the specimen to Sir Astley Cooper among others, who asserted his disbelief that the bone had ever been fractured. His reception by Sir Astley was afterward quoted by Dr. Mussey as showing the intolerance and bigotry of one of the great masters of the profession.

As a writer Professor Mussey was not prolific, but what he did write was characterized by clearness of expression, accuracy and entire truthfulness. He did not find it necessary to go into specious case-writing that might be called Arabian Nights' literature, wherein, judging from the number of cases reported by one author, he must have averaged from ten to fifteen a day for a period of several years, an utter absurdity, but when Mussey reported a case, there was no earthly doubt in the mind of anyone who heard the report that the case actually existed. I need not say to you, young gentlemen, who are now leaving this institution, that next to faith and trust in God, a virtue which most becomes a practitioner of our noble calling is that of *truth;* and we have, I regret to say, arrived at a period in our literature when we must either throw out a large mass of the statistics that are furnished us, or else accept them only from men of known probity in such matters.

As a citizen Dr. Mussey was deeply interested in the political affairs of his time, and as all good citizens should do, took a personal interest in the affairs of his city, his State and his country. I have little respect for the false sentiment that keeps the physician out of touch with the remainder of his fellow citizens on political questions. He need not and ought not to be offensive to his clientelage, but he should have a clear view of what the best interests of the country require, and throw his influence in favor of those interests.

I do not know exactly how it came about, but there has been a great change in the feelings of our countrymen since the days of Dr. Joseph Warren and Dr. Benjamin Rush.

In those times, those great men of our profession addressed public meetings on public affairs. One

[2] See Eve's remarkable cases in surgery, p. 650.
[3] Transactions AMERICAN MEDICAL ASSOCIATION, Vol. 18, p. 347.
[4] Transactions AMERICAN MEDICAL ASSOCIATION, Vol. 1, p. 234.

sealed his devotion to his country with his life's blood at Bunker Hill, and the other gave his time and talents to the organization of the Continental Congress, and signed our immortal Declaration of Independence. Now, I regret to say that our profession, in common with many other of our well to do parlor-patriots, especially in the great cities, do not take the interest they should; as if love of country, and interest in its affairs, were private sins to be kept as a profound secret in the breast of the unfortunate possessor.

No! young gentlemen! Take the stand in regard to public affairs in the community that your education entitles you to take; give your influence freely to that party you deem to be right. When all educated men, the clergy, and the medical profession, join the profession of law, in giving suitable and dignified expression to their views on public matters, all will be well with the Republic.

There is another side to the character of Dr. Mussey which I have only lightly touched upon, and that is his patriotism, his generosity and constant services to the poor, and his secret benefactions. He seemed always to have in view the Hebrews, xiii, 16: "But to do good and to communicate, forget not, for with such sacrifices God is well pleased." Cicero says: "Nothing is greater proof of a narrow and groveling disposition than to be fond of riches; while nothing is more noble and exalted than to despise money if thou hast it not, and if thou hast it, employ it in acts of beneficence and liberality."

Such, ladies and gentlemen, were the characteristics of one of Ohio's great surgeons; one of those who made his mark in the history of medical literature; one who as much as any other helped to develop higher medical education in this Western country. He lived his well-rounded life as an example for the graduating class to look upon with pleasure, to follow with enthusiasm, and to emulate according to the best of their ability. He was one of those virtuous men who, in the annals of Western medical education, made his name immortal.

The distinguished surgeon whose life I have outlined died just before the opening of that vista upon the new field of bacteriology which has perhaps surpassed anesthesia in the wonderful changes it has wrought in the practice of surgery; and with anesthesia and bacteriology to its credit this nineteenth century will go down into history as leading all other centuries in the record of glorious achievements for the benefit of the human race and the relief of human suffering.

LECTURE.

RETROVERSIO UTERI AND PERIUTERINE INFLAMMATION.

Clinical lecture delivered at the Jefferson Hospital, Feb. 18, 1896.

BY E. E. MONTGOMERY, M.D.

PROFESSOR OF CLINICAL GYNECOLOGY IN THE JEFFERSON MEDICAL COLLEGE; GYNECOLOGIST TO JEFFERSON AND ST. JOSEPH'S HOSPITALS; PRESIDENT PHILADELPHIA OBSTETRICAL SOCIETY.

PHILADELPHIA, PA.

Gentlemen: This patient is 22 years of age, puberty occurred at 16, menses were regular, periods lasted four days and were without pain. She has been married four years and three years since had one child. The labor was normal. She had one abortion near the third month of gestation, two years ago. This abortion, owing to retention of the fetal envelope, was followed by pelvic inflammation. Since then she has complained of dull, aching pain in the back and left side, aggravated at the menstrual periods. Micturition is normal. She has had no leucorrhea, appetite is fair, and the bowels are regular. On examination the uterus was found retroflexed, the body of the organ large, a certain amount of fixation upon the left side, and more or less tenderness. In this patient we have a history of suffering from puerperal inflammation of the uterus, and the inflammation has extended from that organ to the surrounding parts, particularly to the left ovary and tube. I have not been able, by superficial examination, to determine the relation of the ovary and tube, but the thickening and fixation leaves me in no doubt of their involvement. You will remember that we have said to you, inflammation may extend from the uterus in three ways: By continuity through the mucous membrane, thus reaching the peritoneal cavity; by the lymphatics, and by the blood vessels. The most frequent form, it is true, is that through the mucous membrane. These inflammations are always microbic in origin. The inflammation through the uterus, reaching the tube, gives rise to a salpingitis which may be simple in character, but if the infection be virulent, results in extensive inflammation and the formation of pus. Simple inflammation may lead to thickening of the mucous membrane, to desquamation of its ciliated columnar epithelium and to more or less obstruction of the canal of the oviduct. In such cases the passage of the fecundated ovum is arrested, and we have occurring what is known as an ectopic gestation. You can readily understand that where menstruation takes place every month, a Graafian follicle is ruptured, the ovum is thrown off, and hemorrhage takes place into the rupture, forming what is known as a corpus luteum. This corpus luteum in cases in which the individual becomes pregnant, is larger and is much slower in undergoing organization and contraction. Such a corpus luteum may afford a vulnerable point for the entrance of infection from the tube and lead to the development of an abscess in the ovary. Indeed, the corpus luteum may frequently afford an explanation of the occurrence of ovarian infection. I saw a patient a few years ago, in whom the ovary had become infected through the tube without any disease of the latter, and an ovarian abscess resulted which very seriously threatened the life of the patient. The muscular structure of the tube is arranged in longitudinal and circular fibers. Inflammation affects the action of these fibers, interference with the peristalsis, or obstruction of the caliber of the tube, increasing the predisposition to ectopic gestation. Some of you have recently seen a patient operated upon in this house, in whom rupture took place at the end of eight weeks, a large quantity of blood escaped into the peritoneal cavity and the life of the individual was thereby endangered. When we came to operate we found between one and two quarts of blood in the peritoneal cavity, which produced so marked an exsanguination of the patient that her life was despaired of. When the inflammation is limited to mucous membrane, it may be known as salpingitis or endosalpingitis. It is rarely, however, that we find it confined to the mucous membrane. The subjacent tissues, the muscular, and even the peritoneal tissue, become envolved, producing perisalpingitis. These fine distinctions, however, have no special reference to the diagnosis or treatment, for we do not have one for a length of time without association of the other. The result of inflammation is to pro-

duce increased secretion and with decreased peristaltic action this secretion accumulates in the tube. This secretion may make its exit through the abdominal end of the tube into the peritoneal cavity, producing a sufficient amount of irritation to cause a localized inflammation. In some cases the patient has a slight peritoneal inflammation at each menstrual period as a result of this leakage. Where the fluid is particularly irritating, peritonitis is set up sufficient to occlude the end of the tube. The fimbriæ become folded in and the peritoneal adhesions take place over the extremity of the tube, thus shutting it off and forming a sac. If the fimbriæ are not entirely folded in, but project to a slight degree, opportunity is afforded for leakage and the occurrence of recurring attacks of peritoneal inflammation. With the closure of the abdominal end of the tube, the fluid is no longer able to escape into the peritonal cavity and the thickening of the mucous membrane prevents its drainage into the uterus, consequently the tube becomes distended, forming a tumor. These tumors are designated hydrosalpinx when the fluid is serous, hematosalpinx when bloody, and pyosalpinx when purulent. The hydrosalpinx may arise from inflammation which is not so severe as to result in suppuration, or as sometimes is claimed, it results from changes which take place in an old pus sac. Hematosalpinx results from the rupture of blood vessels into the tube, and not unfrequently is the remnant of a tubal gestation. A patient who is suffering from an inflammation sufficient to engender tubal trouble, in which the entire mucous membrane is irritated, may have a simple inflammation transferred to a virulent through traumatism resulting from examination; thus, the introduction of the sound into an inflamed uterus without antiseptic precautions may produce a pyosalpinx. It is more likely, however, to occur as a result of septic infection following abortion, parturition, and not unfrequently as a result of infection from the gonococcus. We can not have an inflammation of the tube to any marked degree without the surrounding tissues become involved. Thus, a localized peritonitis results, in which the uterus, ovaries, tubes, and coils of intestine, are bound together, so that when the pelvis is opened we are at a loss to determine the relation of the organs, and how to proceed to separate them. Not unfrequently we find tubes and ovaries incapsulated, closely adherent to the rectum or other coil of the intestines. In tubal disease we have the ordinary symptoms of inflammation of the uterus which usually accompany it. The patient suffers from more or less nervous phenomena, pain at the menstrual period or during menstruation may result from disease of the pelvic organs. In tubal disease, however, the pain is situated in one or the other inguinal region. When this occurs prior to the menstruation we attribute it to a diseased condition of the ovaries. When it follows menstruation, it is undoubtedly due to disease of the tubes. Inflamed ovaries cause pain for a week or ten days prior to menstruation, due to the increased congestion of the organ as a result of the maturing Graafian follicle. That which occurs during the flow is usually uterine in character, but the tubal, as we have said, occurs after the cessation of the organ as a result of the menstruation and is probably due to the peristaltic efforts of the tube to empty itself of its contents. The symptoms will depend somewhat upon the extent of the disease. In those cases in which inflammation occurs and the ends of the tubes remain open, the patient may suffer at each menstrual period or immediately following it, with a slight attack of pelvic peritonitis or pelvic irritation as indicated by increased pain in the region, tenderness over the abdomen and frequent evacuation of the urine. Where the tubes are closed an inflammation is more extensive, there is an accumulation of fluid, either blood, serum or pus, the symptoms become more marked, and here the pressure symptoms are especially determined. The adhesions become extensive, the abdomen is distended, the patient suffers from flatus. With inflammation which results in pus formation, there is variation in the temperature, elevation, sometimes depression. The temperature may be subnormal, but there is a variation between morning and evening temperature. In patients suffering from acute forms of disease, peritonitis is marked, causes tenderness over the abdomen, the limbs are drawn up, there is a frequent desire to evacuate the urine, evacuation of the bowels is painful and the patient suffers to such a degree as to demand immediate relief. After the more acute symptoms subside, she suffers from chronic symptoms. In internal suppuration we will have variation of temperature. In some cases there may be an increased discharge take place from the uterus; this may be periodical in character. The patient at times will be free from discharge; all at once there will be a gush of purulent or serous liquid which is simply due to drainage into the uterus through the uterine end of the tube. Where there is a mere watery accumulation the condition is known as hydrops tubæ profluens, and indicates drainage of the sac through the uterus.

In such a case you may find a patient at one time presenting a mass of considerable size in one or the other broad ligament. At a later examination the same patient will disclose no sign of a tumor. The swelling has entirely disappeared. We may be at a loss to decide what has been the difficulty and may be led to suppose that you have formed an incorrect diagnosis. Upon inquiry you will find the patient has had a profuse watery discharge since her last examination. You recognize from this statement that you have had to deal with hydrops tubæ profluens, and that later another accumulation will result. While we may infer the existence of pelvic inflammation from the symptoms the patient may make known to us, we are only able to arrive at a definite diagnosis by the physical signs. In an ordinary metritis which may cause pain and discharge, with irregular menstruation, the uterus and cervix are generally enlarged and situated at a lower level in the pelvis. In the cases in which inflammation involves the cellular tissue about the uterus, we recognize hardness or induration in the lateral fornices of the vagina and have to conclude as to the manner of treatment. Where the tubes are involved, becoming distended with secretion, increased in size and heavier than normal, they drop into the Douglas pouch, the lowest part of the pelvis, and upon examination of such a patient we find a club-shaped mass on either side of the uterus which decreases in size as we approach the uterus. This condition we recognize to be disease of the tube. Where the mass is movable, fluctuation is distinct and the history of the onset of the trouble has been gradual and without a distinctly marked history of inflammation, we may conclude we have to deal with hydrosalpinx. If the pelvic floor presents a hard, indurated condition, almost board-like in sensation, the patient has had an attack of pelvic peritonitis. Where the

inflammation has involved more particularly the ovary and tube, you are able to outline and definitely determine the masses situated on either side or posterior to the uterus, in which fluctuation may be distinctly determined. In cases which have gone on to suppuration, we generally find extensive adhesions to the surrounding viscera and pelvic tissues. The parts may be so matted together as to render us unable to accomplish the absolute extent of involvement, but we may be able to determine points of fluctuation in which there is more elasticity, showing the presence of fluid. You will ask how we are able to determine ovarian cyst from hydrosalpinx. The latter is generally more closely connected with the uterus; the former is spherical or globular in shape, while in hydrosalpinx the tumor is more club-shaped, irregular in outline and increases in size as you extend from the uterus. The smallest portion of the tube is near the uterus. In favorable cases we may be able to trace the tube and the mass to the uterus. The healthy Fallopian tube we are not generally able to recognize by palpation. In very thin abdominal walls we may be able to recognize a small cord in the upper part of the broad ligament, but whether it is the tube or round ligament may be sometimes difficult to determine. The treatment of salpingitis is exceedingly important. A few years ago every case of tubal disease would have been subjected to the knife. The mere fact that an individual has an inflammation of the tubes or ovaries was enough to indicate she must have her ovaries sacrificed, and if she had inflammation in one ovary or tube, the other must go also. Fortunately, however, for the human race, and for women generally, we do not feel it necessary simply because a woman is the victim of an inflammation which has extended through the uterus to the pelvis, that she should be at once subjected to operation. There are other procedures to which we should resort for the restoration of such cases. The important treatment in every case is prophylactic; treat the disease before inflammation has extended through the tubes and ovaries. When we recognize the danger in a case of inflammation of the uterus and pelvic organs, we endeavor to treat the patient in such a way as to limit the inflammation to the organ first affected. In cases of salpingitis we attempt to correct the disease or prevent its further extension and overcome the trouble by increasing or improving the uterine drainage. This we do by first dilating and curetting the organ, irrigating its cavity and packing it with iodoform gauze. The gauze through its capillary action acts as a drain and serves also to deplete the mucous membrane of the tube. Where the inflammation is more extensive, the condition may be a perisalpingitis. Here there is more or less binding down of the the organs, even though we may not be able to determine the presence of pus.

If the existence of suppuration can be eliminated, we may resort to pelvic massage, supplemented by hot douches, counter irritants and vaginal tampons of gauze and cotton saturated with some alterant in glycerin. In such a patient you would prohibit sexual relations, placing the patient sexually at rest, giving remedies that would promote her general nutrition and favor the more rapid absorption of exudation. Where the disease has gone on to suppuration and this can be determined through examination of the pelvis, is it necessary to resort to a sacrificial operation? Forunately not; even in such cases, if we can determine accumulation of pus in the pelvis by making examination through the vagina, we carefully cleanse the vaginal canal, make incision into the pus tract, irrigate it and pack the cavity with iodoform gauze. By such means we secure the obliteration of the sac which may involve either one or the other tube. The evacuation of the pus, irrigation of the cavity, packing with gauze, fills up with granulations and the focus of inflammation may thus be destroyed. After the removal of the pus, we have in such cases more or less fixation of the tubes, ovaries and pelvic organs. This may be corrected by massage treatment and the other measures suggested. Supposing however, we have a patient suffering from an acute attack of exudation about the uterus, in which a mass is felt to one side, but in which as yet suppuration has not occurred, for instance, a patient having an attack of inflammation following an abortion, a miscarriage or labor, or one who has had inflammation resulting from traumatism or following gonorrhea, the question confronts us as to what we shall do. If left, it may probably suppurate or become organized and form a hard, dense mass in the broad ligament, which will remain for a long period, interfering with the circulation. Formerly we would place such a patient in bed, keep her perfectly quiet, evacuate the bowels with salines, thus depleting the intestines, decreasing the amount of blood sent into the pelvic organs, and use aconite or veratrum viride, to limit the activity of the inflammation. This is good treatment, as far as it goes, but if the exudation is permitted to remain until it causes more or less contractions of the parts and formation of adhesions, it will be a long time before it is absorbed. If suppuration results there is extensive destruction of tissue so it will be possibly necessary to resort to sacrificial operation. In such cases the proper procedure would be to make an incision into the broad ligament, breaking up and affording a vent to the accumulation, packing it with iodoform gauze to secure drainage. The serous accumulation is thus evacuated and we may be able to accomplish in a week what would otherwise require years to obviate. So in such cases we would not only content ourselves with curettement and cleansing the uterine cavity, but would also open the tissue of the broad ligament on one or both sides if necessary, evacuate the inflammatory accumulation and drain. This may also be done in those cases in which we have extensive chronic inflammation, with large accumulation of pus thus enabling us to cure the patient without a sacrificial operation. Where pus exists on both sides of the abdomen, of such a character as to render it improbable we will be able to improve the health of the patient by its evacuation, it may be evacuated through the vagina, and after the patient has recovered from the more acute symptoms, a radical operation may be done. Where both sides are so involved that it will be necessary to sacrifice both ovaries, it is a question as to which shall be the direction by which the disease shall be attacked. Shall it be done through the abdomen or the vagina? This must depend somewhat upon the extent of the inflammation and whether, as we have have said, one or both organs is involved. If we definitely determine by examination that both organs are so involved the patient can only be relieved through their removal, the uterus is no longer an organ of value. Indeed, where the disease has extended from the uterus to the deeper structures, it is preferable that the former organ should be sacrificed as well as the ovaries and tubes, for if it is per-

mitted to remain, it becomes a source of trouble to the patient. The organ having been infected, inflammatory trouble having arisen in its walls, the resulting increase of the connective tissue subsequently contracting imprisons the nerves within its meshes, and causes pain and distress and increase of nervous phenomena from which the patient suffers. If we remove the uterus, ovaries and tubes, the operation can be done almost as readily through the vagina as through the abdomen, and this operation is preferable to the abdominal, owing to the sequelæ which may result from the latter. The probability of infection of the peritoneal cavity is decreased through evacuation of the pus through the vagina preliminary to opening the peritoneum. The adhesions of the intestines are less disturbed. These adhesions have been of such a character as not to interfere with the evacuation of the bowels. If they are broken up, the new adhesions forming may not be so favorable. The drainage is from the most dependent portion of the pelvis and affords an excellent outlet. We obviate the abdominal incision and the danger of subsequent ventral hernia. The convalescence is shorter, is free from the retention within the pelvis of sutures or ligatures which may become infected and be the cause of a sinus which will remain until they are discharged. In cases, however, in which the pus tube is situated upon one side, in which we hope by the sacrifice of one tube and ovary to save the other, the preferable procedure should be through the abdomen. It is true that we may do what is known as an anterior colpotomy, making an incision through the anterior vaginal wall between the uterus and bladder. The fundus of the uterus is tilted forward and brought out, following it with the tube and ovary on either side. The diseased mass may be removed, the uterus then fastened against the bladder and anterior vaginal wall. In some cases where the mass is situated so it can be readily reached, it may be evacuated and drained through the vagina without the necessity of a sacrificial operation.

ORIGINAL ARTICLES.

NAPOLEON'S ALLEGED EPILEPSY.

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In the JOURNAL of Dec. 22, 1895, I gave an account of Napoleon's diseases, including his rumored epilepsy. Since writing that article I have received from Europe some additional facts and statements, largely through the courtesy of Dr. Robert Harvey, of Chicago, temporarily residing in Vienna, who collected for me whatever could be found in that city bearing on the disputed question of Bonaparte's epilepsy. I am also under obligations to Dr. A. Lagorio, of Chicago, for assistance in examining Italian literature. The main facts and statements brought forward to prove the epileptic attacks are as follows, taking them in chronological order:

M. de Norwins, in his Histoire de Napoleon, Paris, 1838, Vol. I. p. 11, says that when the young Napoleon was in the military school, a mere boy, he broke the rules and was subjected to a very humiliating punishment. The effect was to bring on a violent nervous disturbance, so alarming that the punishment was discontinued by his superior officer. This vague description is totally insufficient to establish a diagnosis of epilepsy, and may be dismissed.

After attaining imperial power we find, as early as 1804, a rumor, credited even by some members of his court, that he was subject to epilepsy. In that year a court lady, whose name is concealed, possibly Madame de Remasat, kept a diary of the emperor's journey to Magonza. She states that on September 10 Napoleon "suffered from his nervous complaint or epilepsy, to which he was subject." She adds that Josephine called assistance, and that "after many hours of suffering the attack was calmed." This extract from the anonymous diary is inserted in the Memoirs of Napoleon by Constant, the chief valet de chambre. Constant appears to have been a faithful and honest writer. Whether the authoress of the diary was so we do not know. She rather vaguely calls the attack "his nervous complaint, or epilepsy," but the statement that it was calmed "after many hours of suffering" does not correctly describe a true epilepsy. The emperor forbade Josephine to speak of it.

On another occasion the chief valet, Constant, says he heard distressing sounds and complaints coming from the imperial chamber. Going in he found Napoleon lying on his bed with his mouth wide open, from which issued inarticulate sounds, while one hand was clasped upon his stomach. Constant with some difficulty aroused him, and the emperor asked, "What is the matter?" He then related a terrible dream in which he thought a bear was sitting on his chest and trying to eat out his heart. Epileptics do not lie with the mouth open. The description of Constant indicates a severe attack of nightmare, or incubus.

Baron de Talleyrand, the emperor's minister of foreign affairs, asserts that he and Count de Remasat, the chief chamberlain, witnessed together one of his attacks. The Baron states that he accompanied his majesty on a journey to Strassburg. That on one occasion Napoleon entered Josephine's chamber, but came hastily out again, seized Talleyrand by the arm, drew him into an adjacent room and confusedly ordered the door to be shut. He then fell like a dead body and had contortions which Talleyrand describes as follows: "He groaned, frothed at the mouth (il gémissait et bavait), he rolled and rubbed, and had some sort of convulsions, which ceased in about a quarter of an hour. A little afterward he began to speak, and came to himself. He ordered us to be silent, and in half an hour was on the road to Carlsruhe."

This is as good a description of true epilepsy as a non-professional man could be expected to make, except the phrase "he rolled," a motion which seldom occurs in epilepsy. This, however, might be the inadvertent error of an excited observer. On the whole, if Talleyrand did not misrepresent, it was a true epileptic seizure. On the other hand, we must remember that the emperor and Talleyrand came gradually to hate each other with the greatest intensity, though the pressure of political necessity and the possession of too many state and Napoleonic secrets between them compelled the two men to continue to act in concert.

Talleyrand, like most of the diplomats of Europe at that time, was a colossal fabricator of incorrect statements, and his keen enmity toward the emperor may have led him in his later years to take a hint from the current rumors of epilepsy, and give them the support of a definite but fictitious story.

In 1810 an Englishman named Goldsmith published

a book filled with all sorts of stories against Bonaparte. Among them he related that a Parisian actress claimed that she had been called to spend the night with Napoleon at the palace of St. Cloud, and that while there he had a violent attack of convulsions. She was so frightened that she screamed aloud and roused the attendants, etc.

This might possibly be true, but prostitutes are constantly making false statements about their adventures with great men. Their testimony is usually a lie and is worth nothing as proof of any alleged fact.

The above accounts comprise about all the contemporary testimony in support of the idea that Napoleon was an epileptic. None of them are decisive, yet taken together they give some weight to the supposition.

The proofs on the opposite side of the question are the following:

1. Of the numerous medical men who at various times had attended the emperor and his family there were six who, by direct or indirect permission, felt at liberty to publish what they observed of his diseases. Four of these were intimate with him at St. Helena. The six were Warder, O'Meara, Antommarchi, Arnott, Héreau and Carvisart. These men left in their writings not a word on the subject of the epilepsy. Héreau alone, who examined the writings of all the others, and drew up a report for the information of the emperor's son, appends a remark which seems indirectly to be intended for a reply to the public rumors. He assures the young Napoleon that his father had no disease which tended in the least to obscure the splendor of his intellectual powers.

2. M. Constant, chief valet de chambre, lived in the closest intimacy with the emperor for the greater part of his public life. After his master's death he published copious memoirs, drawn up with the utmost truth and faithfulness. He mentions some of the stories about epilepsy, but says positively, "The emperor was never a subject of epileptic attacks." Professor Teobaldi, of the University of Padua, in a recent treatise on Napoleon, after quoting Constant's assertion adds, as the result of his studies: "Nobody ever saw him fall from his horse, or interrupt a conversation, or suffer any convulsive attack in public. He was not found epileptic by his physicians."

3. "Napoleon's private secretary, De Bourrienne, after the emperor's death published copious memoirs. He says, in Vol. I, p. 278, English edition, as follows: 'It has been said over and over again that he (Napoleon) was subject to repeated attacks of epilepsy, but during the eleven years that I was almost constantly with him, I never observed any symptom which in the least degree denoted that malady.' De Bourrienne was dismissed from the imperial service in disgrace under charges of peculation, and forced to refund one million francs to the treasury. He is said to have cherished great animosity to the emperor ever after, so that he would not be likely to deny the story of epilepsy, if there had been any truth in it."

On the whole, I conclude that the witnesses denying the epilepsy are more credible than those asserting it, but the emperor had an ungovernable temper and a very excitable nervous system, which in some cases carried him into semi-hysterical manifestations, but not into true classical epilepsy. Professor Teobaldi, of Padua, after examining the evidence, comes to nearly the same conclusion.

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FRACTURE OF THE FOREARM COMPLICATED WITH DISLOCATION.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 25–27, 1895.

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The mechanism of the human hand, with its great variety of movements and its marvelous adaptability to the purposes for which it is intended, furnishes a strong evidence against the doctrine of those who have doubt as to the origin of man. The best productions of artificial hands, by the highest development of human art yet made, have fallen far short of the natural member, in a mechanical sense, and it is only in that sense that any artificial approximation can be made. The vital principle, emanating from the brain and spine is necessary to the perfection of this organ, and as much as the man, the mechanician or the artist resembles his Creator, he is still unable to control that vital principle, as against natural physiologic activities, and these activities are maintained by the forearm, which may be said to be the dynamo of the hand, and whenever from any cause this organ is injured so that the normal action of its muscles is impaired the movements of the hands are more or less curtailed. The skeletal structure of the forearm, consisting of the radius and ulna, is so constructed that it has a wide range of motion, not the least important of which is its rotation, which extends beyond a semicircle. When the hand is fully supinated these bones lie nearly parallel with each other, when pronated the radius lies in an oblique direction, across the shaft of the ulna with its articular carpal end on the inner side instead of on the outer side of the ulna, as it is in supination. The radius attached to the outer condyle of the humerus above, by a slightly concave surface, and to the outer surface of the olecranon process of the ulna by the coronary ligament, which gives it free rotary motion, is chiefly concerned in these acts of supination and pronation. The head of the radius constitutes but a small portion of the bulk of the large joint, of which it forms a part, but if measured by its functions we must admit that it is of considerable importance. At its carpal end we find it articulates with the three principal bones of the first row of the carpus, namely, the scaphoid, semilunar and cuneiform, and practically forms the whole of the wrist joint. The ulna performs only a minor part, and does not enter into the formation of the joint. This bone, with its little head and big base, controls for the most part the actions of the hand, while the brachialis in front reinforces the power of the biceps flexor cubiti, which is attached to the tubercle of the radius and flexes the forearm. The large size and complicated form of the ulna at the elbow joint, with its greater sigmoid fossa fitted to the inner condyle of the humerus, its lesser sigmoid fossa fitted to the head of the radius, its coronoid process which forms the inferior boundary of the greater fossa, and its muscular attachments and powerful ligamentous involucrum, all combine to place it in strong contrast, both in structure and function, to its carpal end. Of the twenty muscles of these two bones, five are attached to the inner condyle of the humerus, and act as flexors and pronators of the fingers, wrist and hand. Three of the deep layer, lying beneath these, originate from these two bones below the condyles. Of these, two, the flexor longus pollicis and the flexor profundus

digitorum, as their names imply, are flexors, pure and simple, and one, the pronator quadratus, is purely a rotator. In the radial region or border, we have three muscles all arising from the external condyle and the external condyloid ridge of the humerus. One of these is attached to the styloid process of the radius and therefore acts as a supinator, the other two acting as extensors of the hand. There are nine muscles on the back or dorsal aspect of the forearm. These, the muscles of the radial and posterior brachial regions, comprise all the extensor and supinator muscles and act on the forearm, hand and wrist. They are the direct antagonists of the pronators and flexors. The anconeus assists the triceps in extending the forearm. The supinator longus and brevis are the supinators of the forearm and hand, and the former acts as a flexor if its action is continued after supination is complete. The extensor carpi radialis longior and brevior and the extensor carpi ulnaris muscles are the extensors of the wrist, and continuing their action, serve to extend the forearm upon the arm. They are the direct antagonists of the flexor carpi radialis and ulnaris. The bones of the forearm, when extended and fully pronated are nearly in line with the long axis of the humerus, but when fully supinated the forearm represents a divergence of about 10 degrees outward. Neither the elbow nor the wrist joints are at right angles with the long axis of the humerus or the bones of the forearm. That at the elbow slanting toward the inner condyle, bringing the trochlea for the great scaphoid fossa of the olecranon at a lower level than the articular surface for the radial head, while the styloid process of the radius extends lower in supination than that of the ulna. These data have some importance when attempting to make a differential diagnoses as between fractures and dislocations. The blood and nerve supply of the forearm and hand are ample in the normal state, but lesions of these vessels and nerves in cases of fracture, especially so in crushed fractures, have much to do with the results of treatment; for large destruction of muscles may be present without serious functional impairment if the blood vessels and nerves are but slightly injured, or not injured at all. As regards the nerve supply, if we know the distribution and the degree of injury the nerves have sustained, we may judge pretty well as to the probability of paresis or paralysis supervening. The distribution of the median, ulnar and musculospiral, the latter mainly by its radial branch, while not exactly uniform in all subjects, is sufficiently so for all practical surgical purposes. These incomplete anatomic data of the forearm may be helpful in the diagnosis of its fractures and dislocations. Fractures of the forearm are of frequent occurrence, especially those involving the lower end of the radius. Sometimes they only involve a portion of the articular surface of the radius, sometimes the articular surface is badly fissured and the fracture extends some distance up the shaft. There is an occasional separation of the apophyses in young subjects, and impactions are not infrequent. The deformities caused by most of these fractures, especially in Colles fractures, is no doubt largely due to the force which produces them. This is usually a fall on the palm of the hand, the weight of the body acting through the limb with sledge-hammer force so that the fractured lower end of the radius is driven upward beneath the supinator and extensor tendons and is pretty firmly held there, not so much probably by the contraction of these muscles as by the binding power of their tendons. If the force of the fall has been very great, so as to cause considerable displacement, the ulna is almost certain to be either dislocated or fractured. If a Moore's dislocation is the result, this may greatly add to the difficulties of the treatment. The intervention of blood clots or other tissues and agencies sometimes render complete coaptation difficult if not impracticable and when it is successfully attained the spasmodic action of the muscles often render it impossible to maintain it. Dr. E. M. Moore's demonstrations of the dislocation and occasional fracture of the head of the ulna as an accompaniment of fractures of the lower end of the radius seem to have attracted less attention than they deserve. Several cases of this kind have fallen under my observation and a still larger number in which there appeared to be a partial dislocation of the head of the ulna. Dr. Moore met with several cases in which there was dislocation of the head of the ulna accompanying fracture of the carpal end of the radius, and in which the ulna was driven into, or partly under the annular ligament. This malposition rendered coaptation of the fragments of the radius impossible until the imprisoned head of the ulua had been liberated. If the fracture of the radius is not completely reduced and a shortening results the obliquity of the radio-carpal articulation is increased, the radius shortened and the head of the ulna rendered more prominent, causing a conspicuous deformity. This deformity may also happen, but generally in a less degree, if the radius is fractured higher up, and reduction and coaptation have not been perfect during the period of bony union. Separation of the apophysis may cause a good deal of deformity and be easily mistaken for a dislocation, but occurring as it always does in young subjects in whom muscular rigidity is generally inconsiderable, reduction is generally easy and the crepitus is differential. Gunshot fractures of the carpal end of the radius sometimes happen without much displacement. The cancellous structure of this end of the bone with its thinned outer layer of hard tissue makes it quite possible for a small solid shot to perforate it without causing much splitting, splintering or bone displacement. It is, of course, quite different when the radius is shattered by a charge of finer shot. The ordinary causes of fractures of the lower end of the radius are liable to be in operation in railroad and machinery accidents, but in these latter accidents we are more likely to find the soft parts crushed and so badly injured as to be devitalized. Fractures of the shaft of the ulna, unless caused by direct force, are not infrequently complicated with dislocation of the head of the radius. This is more apt to be the case if the fracture has been produced by falling on the partially extended palm of the hand as in most cases of fracture of the lower end of the radius. The shaft of the radius being in these accidents too strong to yield, and the force being great, the ligaments of the head of the radius give way and it is forced upward on the anterior surface of the external condyle of the humerus.

Fracture of the coronoid process of the ulna is very rare, except as a complication of dislocation of the ulna backward. The tendency to muscular displacement, in this little fracture, is inconsiderable as the only muscle attached to it is the brachialis anticus, and its fibers are so spread out on and over the ulna below, that very little traction on the fragment can occur unless these fibers are torn by the injury. This process is so small that it is not always easy to determine

when it is fractured, especially when the swelling has become considerable before examination. It may, however, occasionally be felt as a small movable body under the skin of the part by careful manipulation. Fracture of the head or neck of the radius is more frequently met with in connection with dislocation of the olecranon accompanied by fracture of the coronoid process than otherwise. This too is sometimes of difficult diagnosis, but when there is not too much swelling the lesion can generally be distinguished by the pain or tenderness, or sometimes by the crepitus and pain on supination and by the evident want of motion of the head when rotating, or by attempting extension or shortening of the shaft of the radius. If there be fracture of the external condyle with the fracture of the head or neck of the radius the latter may easily be overlooked. A fracture of the radius between the insertion of the biceps and the pronator radii teres is liable to result in a bad cure unless the situation of the fracture and its anatomic relations are appreciated and the action of the biceps on the upper fragment, and the pronator quadratus on the lower are antagonized. This biceps being attached to the back part of the bicipital tuberosity rotates the upper fragment outward and produces more or less complete supination, while the pronator quadratus pulls the lower fragment in the opposite direction toward the ulna and produces pronation. Now, if these displacements be real, it is easy to see that even if the ends of the bone are brought into line and osseous union effected, the limb will be sadly defective, unless the supination of the upper fragment and pronation of the lower can be corrected. Consolidation would, in this condition of the parts, result in almost complete loss of pronation and supination, but relaxation of the tenden of the biceps by a rectangular position of the forearm together with manipulation of the two fragments, would rotate, the one outward and the other inward and bring their normal transverse axes to correspond with each other. This fracture should then be dressed with a rectangular splint.

It begins to appear that my subject is too large to admit of full and specialized consideration in detail within time limits, and so, after giving a short history of a private case and then some statistic facts, with a few comments on shot fractures of the forearm my time will have been fully occupied.

John L. Allen, a fair-haired, light complexioned boy, aged 15, accidentally discharged a heavy load of shot into the ulnar side of the right arm in June, 1883. The ulna was broken from about the junction of its middle and lower thirds to near the coronoid process and the muscular structures largely carried away. The flexor and pronators and portions of the extensors were nearly destroyed, close up to the joint, a considerable portion of the interosseous, together with the ulnar artery and nerve were also destroyed. He nearly bled to death before he got assistance. The artery was tied at both ends, the ulna cut off smooth at both ends, and the loose fragments removed leaving a hiatus of four inches in its continuity. The arm was dressed with lint and put on a pillow covered with oil silk and a syphon supplied with cold water made to play on it day and night continually. There was no inflammation or suppuration. It granulated and closed in a few weeks without incident. He obtained a business education and is a book-keeper. The little finger and the ring finger are flexed in a state of permanent contracture. The other fingers and the thumb have a large range of motion, and he says the arm is strong. The median and radial nerves were not much injured. The usefulness of this arm furnishes a striking contrast with the conditions of most of those who suffered similar or even less mutilation in military practice. The following statistics are from the Surgical History of our Civil War, Vol. II, beginning at page 921.

There were thirty-two cases of injuries to the bones of the forearm classified as partial fractures. They were not cases of solution of continuity but were chipped or grooved by the passage of balls across their surface. They involved the ulna in twelve cases, the radius in fifteen, both bones in one, and four were not specified. Twenty-eight of these cases were treated conservatively and of these two died. The other four were amputated in the upper arm and two of these died. So that the mortality of these thirty-two cases of partial fracture was 12.5 per cent., a larger percentage than followed in the treatment of cases of complicated fractures of these bones. In military practice the larger share of fractures of the bones of the forearm are in the ulna, the radius being next in number and both bones third. There is a complete record of 5,194 cases of shot fracture of the bones of the forearm. About three-fifths of these cases were treated without operative interference with a mortality of 6.4 per cent. The radius and ulna were both fractured in 1,291 cases or a little less than one-third of the whole number of cases in which the seat of the fracture was specified. This group as might be expected contains a larger number of cases requiring operative interference than the others in which a single bone only was involved; 323 of these 1,291 cases were treated conservatively and there were 299 recoveries, 103 of whom returned to modified duty and 196 were discharged. These recoveries were left with more or less disabled limbs, very few of them having much rotation left. Pseudo-arthrosis occurred in two cases. The death rate was 7.4 per cent.

Fractures of the Ulna treated Conservatively.—The results here in 1,044 cases, all but 5 of which were determined, were recoveries 980, deaths 59, a mortality 5.6 per cent. Of these 980 recoveries, 490 returned to modified duty and 490 were discharged. Eighteen of these recoveries had secondary hemorrhages. In three, ligature of the brachial, in five, ligature of the ulnar and in four, ligature of the radial was practiced. The other six recovered under the use of styptics and compression without ligature.

Of the 59 deaths out of the 1,039 determined cases of shot fracture of the ulna the greater number were caused by pyemia and gangrene. Of 999 shot fractures of the radius treated during the war the proportion of deaths is rather less than resulted from fracture of the ulna, but the degree of disability is greater. Of the 949 of these cases that recovered 445 returned to modified duty and 504 were discharged—a considerably larger proportion than was discharged among those recovered from fractures of the ulna. Quite a number of the recovered cases had secondary hemorrhage requiring the ligature, a few had hospital gangrene, a few erysipelas, and many had osteitis, necrosis and exfoliation of bone. In some instances long cylindrical sequestra were removed. There were 147 cases among the recoveries in which considerable sequestra were removed. Of the fifty fatal cases in this series five died of pyemia, in six secondary hemorrhage caused death, two died of tetanus, one from gangrene

and two of erysipelatous complications, but the majority of the deaths were reported from exhaustion and from the various affections arising during their hospital residence. Hospitalism was then an important factor in results. In aggregation out of the 5,194 cases of shot fractures of the forearm 2,970 were treated conservatively. The graver complications among these were comparatively infrequent. There were, however, twenty-seven deaths from pyemia, four from tetanus, thirteen from secondary hemorrhage. There were fifty-seven cases of severe secondary hemorrhages treated out of this large series requiring in different cases ligature of the brachial, radial, ulnar and interosseous arteries.

Excisions in the continuity of the bones of the forearm were practiced in 986 out of the 5,194 cases of shot injuries of the forearm, with a mortality of 11.2 per cent.; 496 of these excisions were of the ulna, 413 of the radius and 59 of portions of the shafts of both bones; 18 cases were not specified as to the bone or part of it that was excised. Excisions were classified as primary when done before swelling or inflammation occurred, or in general within thirty-six to forty-eight hours from date of injury; intermediate when done later, or within twenty to thirty days, and secondary when done after thirty days. Primary excision of one or both bones was done in 665 of the cases with a mortality of 71,—10.6 per cent. Five of the cases were undetermined. The excision involved the ulna in 321 cases, the radius in 291, both bones in 40 and in 13 the seat of the excision was not specified. Forty-four of these cases were Confederate soldiers.

Of the forty excisions of both bones, thirty-four were successful as regards the saving of life, but eighteen of them afterward required amputation, and among the twenty-two who retained their arms not a single good result was obtained. In fact the recovered cases who retained their limbs were worse off than if amputation had been done as the limbs were useless appendages and a hindrance. Excision of the shaft of the ulna shows 290 recoveries. The length of the shaft removed varied from one to six inches, in one case the entire diaphysis was removed. In one of this series excision was made in the radius of the right arm and the ulna of the left. This man died in 1872 and a short time before his death pension examiner, O. M. Stockwell, of Port Huron, Mich., reported his "disability is almost equivalent to the loss of both hands" and in general the ulterior pension reports in these cases show a disappointment in regard to the expected usefulness of the limbs. Of 413 primary excisions of the shaft of the radius 256 recovered.

Table 126 gives 589 cases of recovery after primary excisions of the bones of the forearm for shot wounds (36 were Confederate) of which 147 were returned to modified duty and 406 discharged from the service.

Intermediary Excisions of the Bones of the Forearm.—Of these 149 cases with a mortality of 19.4 per cent., or 29 deaths are reported; 9 cases involving both bones, 64 the ulna and 47 the radius. Among the 120 cases of recovery after intermediary excision of the forearm were eleven of secondary hemorrhage, three consecutive amputations in the forearm and six in the upper arm. Of the twenty-nine deaths of this series the greater number were from pyemia and pyemic complications. None of these were done on both arms, eighteen were of the ulna and eleven of the radius. Unsuccessful consecutive amputations were done in the upper arm in five cases. The fatal issue in one of them was thought to be due to the concomitant fracture of the spinous process of one of the dorsal vertebræ. There were forty secondary excisions made after thirty days from date of injury. Seven of these involved the shaft of both bones, twenty-one of the ulna only, and eleven of the radius and one not specified. There were four fatal cases of these secondary operations. Beside the different series of cases above shown in which a classification as to date of operation was given, there were 132 cases of excision of the forearm not classified, in which the small mortality rate of 4.3 per cent. was reported.

RECAPITULATION IN AGGREGATE.

This large number of excisions, 2,251, of the bones of the forearm compares unfavorably in results with the larger number, 2,943 treated on conservative principles, both as regards mortality and subsequent usefulness of the limbs. Could aseptic, or even antiseptic surgery be made available in future wars, the results would no doubt be improved, and resection and amputation would be found unnecessary in a large portion of cases in which they were practiced in preantiseptic times.

The mortality 2,943 cases of shot fracture of the forearm treated by conservatism was 6.4 per cent. and of the 965 treated by excision 11.2 per cent. and of 1,256 treated by amputation primarily or consecutively performed, the death rate was 16.3.

In studying these statistical results we note with interest if not surprise the great difference in the mortality of cases treated conservatively and those treated by excision or amputation. The fact, however, is not to be overlooked that the milder cases were as a rule treated conservatively and the more severe by excision or primary or conservative amputation. Unless antiseptic surgery can improve the results of excision of the bones of the forearm the operation ought to be abandoned in military practice and the same remark may apply equally to railroad surgery.

AN UNUSUAL CASE OF FRACTURE OF THE SKULL.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 25-27, 1895.

BY F. H. PECK, M.D.

SURGEON, N. Y., O. & W. RY., UTICA, N. Y.

I have to beg the indulgence of the Academy for bringing up in a very new and crude way a history of a case which has always been extremely interesting to me, and I will explain how it is that I am unable to give more complete data of the case. It is a case of fracture of the skull which occurred during my service at the State Emigrant Hospital, New York, when that institution was located upon Ward's Island and under the government of the New York commissioners of immigration. Some three or four years following my service the department was taken out of the hands of the New York State commissioners of immigration and put into the hands of a single-headed commission which was under the general government, and the hospital was removed from Ward's Island to Ellis Island in the harbor so that my data in regard to the case are rendered inaccessible. It is a case I should have reported at the time it occurred, excepting that I was very young in the profession and thought that it would be rather presumptuous for one who was but a recent graduate to rush into print. My

only apology for now presenting it is that the case is interesting to show the amount of injury which the skull and its contents will occasionally tolerate, not on account of good treatment, but perhaps in spite of the treatment, and the fact that the case has never been presented before.

In the summer of 1882 an Italian, about thirty years of age, belonging to a construction gang on the West Shore Railway, then being built, was admitted to my service in the state Emigrant Hospital, New York, with a compound fracture of the bones of the skull, and with the following history, partly obtained from the Chambers Street Hospital, and partly from the patient after his restoration to complete consciousness: Three days prior to coming under my care, while at work in a rock-cutting, he was instructed to dig out a blast which had failed to explode, with the result that the heavy charge exploded in his face. He was taken across the river to Chambers Street Hospital, and on the third day transferred to the State Emigrant Hospital, on account of the development of erysipelas in the margins of the wound, as no septic cases were allowed to remain in the Chambers Street wards.

Physical signs on admission were as follows: A compound fracture of the frontal bone extending transversely across the forehead just above the frontal eminences and below the hairy margin of the scalp. The wound through the soft tissues was about five and one half inches in length and gaping to about one and one half inches at its widest part; extending from a point about two inches superior to the right external angular process to a point about equally distant above the middle of the left superciliary ridge, and communicating freely with the cranial cavity and brain through the subjacent fracture and an equally large laceration through the meninges. The cutaneous surface surrounding the wound for a distance of about an inch from its margins was swollen and reddened with an angry erysipelatous blush. The bottom of the wound was filled with detritus composed of necrosed brain tissue, small fragments of rock and some loose bony fragments. The fracture could be traced beyond the limit of the open wound to the left external angular process; thence it extended through the roof of the left orbit, emerging in the nasal bones which it traversed obliquely downward, through the right malar bone, and thence outward and upward to its point of origin near the superior extremity of the right temporal ridge of the frontal bone. It extended across the base of the anterior portion of the skull from the left external angular process through the left orbital plate of the frontal bone, and posterior to and including the right orbit, or the greater part of it, to a point on the external aspect of the right great wing of the sphenoid, including in the parts fractured from the rest of the cranium nearly all of the frontal and ethmoid, and portions of the sphenoid, nasal and right malar bones. This was proven by the mobility of the portion fractured off, which was so mobile as to move back and forth with every cardiac impulse transmitted through the cranial pulsations, and by the fact that the upper right portion of the face, including the right orbit and globe of the eye, was advanced anterior to the plane of the upper left portion of the face and left eye. This obliquity of the frontal structures and eyes remained after the wound was healed, the right eye being about five eighths of an inch anterior to the plane of its fellow, and the facial deformity was well shown in a tin-type which he brought me, but which I unfortunately left at the hospital at the end of my term of service.

The patient was in a condition of mild stuporous delirium, answering questions when aroused, but irrationally and *mal a propos*. Through loss of notes I am unable to give clinical record of pulse and temperature.

Confronted with the above conditions I considered his injuries necessarily fatal, and believing I could do no harm in contributing to the fatal issue, I was extremely bold in exploring and cleaning out the wound in the cranial cavity, introducing all the fingers of my hand into the cranium so that in the manipulation the anterior portion of the right anterior lobe of the brain rested in my hand on the palmar surface of the fingers. In this manner, and assisted by irrigation I removed the detritus, including, I should think, as much as half an ounce of softened and detached brain substance. The selection of dressing next perplexed me. You will remember this was in 1882 in the early days of antisepsis, and the only agents then in use to modify septic conditions were carbolic acid and iodoform, neither of which I wished to apply to a wound communicating so freely with the brain on account of their irritant properties. I contented myself with applying compresses kept constantly saturated with cold water, and to my surprise the patient immediately and steadily improved; the erysipelatous redness, fever and delirium disappeared within a week or ten days; the wound granulated and cicatrized from the edges, and he progressed to an uneventful recovery, and was discharged cured about two months after his admission to the hospital. After his delirium subsided he showed no impairment of mental powers nor loss of function save the sense of smell, which was completely lost through rupture of the olfactory filaments.

On his discharge I asked him to report after the lapse of two or three months that I might further examine as to his cerebral functions, and at the end of two months he presented himself again bringing a picture showing his facial deformity as stated above, and showing no mental deterioration.

DISCUSSION.

DR. DALBY—The paper just read and case cited by Dr. Peck—skull fractures and to what extent these fractures may go and still the patient recover—simply adds another to the already long list. We have seen compound fractures in such aggravated shapes that seemed as though recovery would simply be impossible. As he stated in the paper, in this case he got well in spite of any medical attention; I think a great many of them do. In cases of fractured skull as they come under the railway surgeon's attention, beyond cleansing the wound and making it as aseptic as possible, relieving the pressure, is about as much as we can do. The case he cites is certainly an interesting one, but, as I stated, only another of a long list of these horrible fractures where patients recover in spite of all we may do and may not do. As I have stated, there is very little in such cases that can be done anyhow, even in the surgical field. After we have made the wound aseptic and relieved the pressure we have performed about all the surgeon can do.

Valerianate of Antipyrin.—A writer in the *Boston Medical and Surgical Journal* recommends that the following formula be used to prepare this salt. It has been used in cases of nervous prostration with recurrent hysteric symptoms: Antipyrin, grs. xxviij; aq. destillat. q. s. ad ft. sol.; ft. sol. et adde acidi valerianici, gtt. xv. Misce. Shake well, and stand aside to allow the salt to crystallize.

THE USE OF GOLD FOIL IN FRACTURES OF THE CRANIUM AND RESULTING HERNIA CEREBRI.

Read at the Second Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 25-27, 1895.

BY W. L. ESTES, M.D.

CHIEF SURGEON, L. V. RY., SO. BETHLEHEM, PA.

The three cases related in this paper are offered as illustrations of a slight advance in hetero-plastic attempts, and are unique in that they were done on the contents of the cranium, and not on the cranial walls themselves. The nearest approach I have found to the attempts I have made were by Weir, of New York, and to his pioneer work in usuing gold foil to prevent adhesion of the dura to the cranial bones after serious fractures and removal of pieces of bone from the cranium, I have extended the use of the foil in one case to plug up the cavity in the cerebrum itself, and in two other cases to replace destroyed dura—not with the idea or indication of preventing adhesion but of replacing the obturator function of the lost membrane, and so prevent a further escape of cerebral tissue and subsequent development of a hernia cerebri.

The number of cases is too small to serve as an authoritative guide for future routine practice; these cases indicate, however, beyond the shadow of doubt the extreme tolerance of the brain and cranial contents to foreign bodies and may encourage further attempts in even more radical directions. For instance, it happened once to me in operating on the cerebrum to open the lateral ventricle, and I found no ordinary plug nor suturing nor compression would prevent the constant escape of cerebro-spinal fluid, which finally caused the death of the patient. Having the experience of these cases in mind I should not now hesitate to form a new roof for the lateral ventricle by gold, or if need be plug its cavity with a cup of gold. The gold foil might also be useful in controlling the escape of cerebral tissue or help fill the cavity left after removal of tumors from the brain, and so on. It must be understood that this kind of hetero-plasty demands the strictest aseptic technique and most careful attention to details.

A most valuable adjunct to the specific use of the gold foil inside the cranium, is the inhibitory action it exerts against the growth and development of the microörganisms. This most beneficent quality was discovered at Johns Hopkins Hospital by Drs. Welsh and Halstead. It is true also of silver foil and metal plates and sutures generally which will resist the corroding actions of the animal tissue and fluids. This inhibitory action against microörganisms may explain the removable aseptic course of the second and third cases, after the use of gold foil when the conditions previous to the operation were particularly favorable to subsequent suppuration.

The gold foil I have used has been next to the thickest foil ordinarily used in dentistry, I sterilized it by a prolonged immersion in a 5 per cent. solution of carbolic acid and just before using it washed it thoroughly in a sterilized normal saline solution. During the operation a warm sterilized saline solution was used for all purposes of douching or washing about the wound or within the cranium. I invariably prefer to remove by gentle douching any detached cerebral matter, clots, or debris from the cranial cavity, rather than by swabbing with any sort of gauze or sponge. I have found capillary drainage quite sufficient in these cases. I have used stout catgut, or a narrow piece of sterilized iodoformized gauze as drains.

The arguments specially in favor of these heteroplastic attempts, rather than autoplasty, are two-fold. 1. After a stock of gold foil has been obtained it is always ready and is easily employed, whereas autoplasty, after complete destruction of an area of dura or cerebrum, is extremely difficult and usually indeed impracticable. 2. Hetero-plasty introduces a substance which if it prove an irritant does so simply by its presence as a mechanical result, so to speak, and it acts as an efficient inhibitor of microgenesis, whereas autoplasty may, and commonly does, result in necrobiosis and infection of the already badly injured tissues. The former may be removed *in toto* without much disturbance and with relief to the symptoms, whereas in the latter case the result of the death of the organic graft is usually irreparable and far reaching.

The cases are as follows (The first case was published a few months ago in the *Medical News*. The other two cases are given here for the first time):

Case 1.—Cornelius B., a negro, 28 years of age, was brought to the hospital in an unconscious condition on the night of April 4, 1893. The ambulance surgeon was told that while the patient with a companion was out driving, Cornelius, by what means or agency could not be discovered, was thrown to the ground and kicked by the horse, becoming immediately unconscious. He was forthwith taken in charge by his companion and sent by railroad a distance of some twenty-odd miles, and finally was received at the hospital, still unconscious, three or four hours after the injury. No dressing or covering of any sort had been placed over the wound. Examination showed no injury anywhere, not even an apparent bruise, except on the right side of his head, where there was a *punched-out* sort of wound through the scalp and bone and deep into the cranial cavity. The location of this wound was 6.5 centimeters above the external auditory meatus and 2 centimeters in front of a line perpendicular to the external auditory meatus; it was 5.5 centimeters behind and 3.5 centimeters above the external angle of the frontal bone. The wound in the scalp was round, but a laceration extended backward about 3 centimeters. The surrounding scalp was not lacerated or contused. Hemorrhage had entirely ceased and had not been profuse. The man's general condition was good. Although he was unconscious, enough reflex remained to cause him to move about when the wound was manipulated. After shaving and carefully cleansing and disinfecting his head he was chloroformed, the external or scalp wound was enlarged and the bone freely exposed. It was found that the depressed fracture of the bone involved an area of a little less than 2 centimeters and that all of this bone was driven down at almost a right angle to the cranium into the cerebrum, so that there was a sharply-defined rim of bone, with some radiating linear fractures, and about 3 centimeters beneath, from the inner table of the cranium, the comminuted fragments lay imbedded in the cerebrum. Outside of this bone the scalp had also been punched out and the fragment was lost. The opening in the bone was enlarged and by careful manipulation the fragments were lifted out of the cerebrum with a pair of narrow forceps. A few spiculæ were so small and sharp and deeply imbedded that much care was required to locate and remove them. When the fragments were finally removed free hemorrhage took place from the cerebrum, but was checked by plugging the cavity with iodoformized gauze. Something like 15 cubic centimeters of lacerated cerebral tissue were washed away with a gentle stream of warm sterilized saline solution. The dura was lacerated to shreds and it was quite impossible to close the gap in the membrane. I concluded to pack the whole cavity with iodoformized gauze, and, by careful asepsis, endeavor to obtain healing by granulation. Accordingly, a careful dressing with an outside pressure bandage was applied and the patient put to bed. He stood the operation very well, reacted quickly, and under morphin passed a quiet night. The next day he was quite conscious, answered questions readily and had no paralysis. There had been considerable oozing and the dressings were saturated with blood. I changed the dressing. In spite of the greatest care there was an escape of more cerebral tissue, and as there was

no membrane or scalp to help retain it I saw I should have trouble to prevent the escape of brain tissue whenever I dressed the wound, and every prospect of a final hernia cerebri. I replugged and redressed the wound as before and concluded to wait a day or two. I recollected, in thinking over the matter, that Weir had recently used gold foil to prevent adhesions between the dura and cranium and scalp, and had found it non-irritating, and that rapid and permanent healing occurred in his cases. I had to control the oozing of the cerebral tissue into a cavity and prevent its detachment and escape on account of a complete loss of all its envelopes. I concluded to try a sterilized cup made of heavy gold foil fitted down into the cavity of the cerebrum.

On April 7, two days after the injury, I again had the patient chloroformed, and getting the dimensions of the hole in the cranium I fashioned a cup from the gold foil (which had been sterilized by immersion in a 5 per cent. solution of carbolic acid and then washed off in a warm sterilized saline solution, 0.5 per cent. solution of sodium chlorid) into the shape of a hollow cone, with the base just big enough to fit closely to the inner rim of the inner table of the cranial wound and with a depth of about 2 centimeters. The plugs were removed from the cerebral cavity, with again considerable escape of brain matter, which was washed out by a gentle stream of the warm sterilized saline solution, and the cup immediately introduced, apex downward. I fastened it in place by pressing the foil into the indentations and irregularities of the rim of the inner table and packed loosely into the cup some iodoformized gauze. I incised and loosened the scalp on either side of the wound so that I could slide it over and cover in the opening, sutured it, except a small space in the center through which an end of the bit of iodoformized gauze was allowed to project, and dressed it as before.

On April 14 the wound was redressed, the sutures removed, and also the packing of gauze from the cavity of the gold cup. The wound was perfectly aseptic, the cup firmly fixed and in place, and there was no bulging and absolutely no escape of brain matter. A small bit of gauze was again introduced into the cup to give it solidity, and the dressings were reapplied.

On April 27 the wound was again inspected. There had been no suppuration, and the wound was entirely closed except where the bit of gauze projected from the cup. This was removed and the external wound was allowed to come together. In a few days this was entirely and solidly united. The patient was allowed to be up and about. His faculties were all good, locomotion was good, and in short he showed no indication in any way of having lost any function; nor were there any signs of irritation from the cup. I kept him about two weeks employed most of the time about the wards, doing the work of an orderly, that I might observe him and examine the seat of wound. There was absolutely no indication of any trouble or disturbance. He was discharged quite well May 20. The wound was firmly united and there was no pulsation perceptible through the opening in the cranium.

Case 2.—George S., a Hungarian, age 27 years, was brought to the hospital by the ambulance on June 21, 1894. He had been engaged in an altercation with some of his fellow workmen the day before and was struck by a stone thrown by one of them. He was felled to the ground, bled profusely, presumably was unconscious, though this point we could not find out, as we had no interpreter. A local physician was called in who found a comminuted depressed fracture and trephined; possibly he raised some depressed fragments of bone. The scalp wound was sutured and dressed and the patient as soon as practicable sent to the hospital. When admitted the man was not only conscious, but could and did insist upon walking into the receiving room. He was a short, healthy looking fellow. Upon investigation there was found an irregular lacerated wound and a more regular oval wound situated in the right temporo-parietal region. The oval wound was sutured. The sutures were removed and after careful cleansing and disinfection a further exploration showed an extensive comminuted depressed fracture involving the anterior portion of the temporo-parietal region in the right side and the fracture extending downward and forward involving nearly the whole of the temporal fossa. A trephine wound about a centimeter in diameter through the anterior inferior portion of the parietal bone marked the upper limit of the fracture; below, the bone was in a number of irregular fragments and depressed. The patient was chloroformed, the external wound extended down into the temporal region and after careful retraction of soft tissues, during which hemorrhage was rather free, it was found that two large fragments of the temporal bone were depressed and that under the upper edges of these were a number of sharp small fragments which had been driven through the membranes and imbedded in the cerebrum. After raising the temporal fragments the small fragments were carefully taken out. Considerable hemorrhage followed this and escape of not a little cerebral tissue. It was now seen, after the hemorrhage had been controlled by pressure of iodoformized gauze, that the dura and other membranes had been entirely destroyed at the lower part of the wound near the inferior temporo-parietal junction and that there was a persisting oozing of brain matter. It was quite impossible to bring the dura together throughout the whole area, the fragments of bones were irreparably comminuted and soiled. It was determined, therefore, to supply the place of the dura with gold foil. Accordingly a rectangular piece having been sterilized in carbolic solution (5 per cent.) and washed off in warm sterilized saline solution, the brain matter was washed off with a gentle stream of hot saline solution, together with blood and detritus, and an area of 2 c. by 1 c. which was entirely destitute of any membranous covering was covered in by the gold foil, placed under the border of the surrounding dura, and held down by the pressure of the dura and the large fragments of the bones below. The scalp was immediately sutured, stout catgut drain was introduced at the more depressed part of the wound, and the ordinary iodoformized dressing applied. The wound healed with one change of dressings and the man was discharged quite well and apparently in first rate condition in every respect, July 7, sixteen days after the operation.

Case 3.—George E., 20 years of age, Pennsylvanian by birth, was run down by a train of coal cars on the evening of Feb. 19, 1895. He was picked up and brought to the hospital about one hour and a half after the accident. The young man was in a wretchedly low condition when he arrived. He was unconscious, had scarcely any perceptible pulse, extremely pale and relaxed, and covered with dirt, soot and coal dust. Examination showed a complete crush of the left leg up to just below the knee joint, the right foot also comminuted and the tissues involved up to the lower third of the leg. There was also a wound on the left side of the head about 3 centimeters above the supra-orbital ridge, back of the edge of the hair at the forehead, and about 6 centimeters from the middle line; this was a fairly clean cut wound, running in a slightly curved line backward in a general way parallel with the middle line. The left parietal bone was fractured so that the fracture was almost linear. Running backward, it corresponded almost with the area of the external wound. The fracture was about 6 centimeters in length. There was considerable oozing of blood and cerebral tissue. The patient's condition seemed hopeless. The ambulance surgeon had already applied an Esmarch's tourniquet to either limb as near the crushed tissue as possible. The limbs and head were now carefully washed, shaved and disinfected and an aseptic dressing applied. He was hurried to bed and surrounded with hot water bags, and stimulated actively by strychnia and digitalis hypodermatically. He was very restless and required large doses of morphia to quiet him. The next morning (February 20) he was conscious, but dull; his general condition had so far improved that he was etherized and both his lower extremities were amputated. The left one through the condyles of the femur and the right through the lower third of the leg. The depressed parietal bone was also elevated, the cerebral tissue and blood carefully washed away and the scalp sutured. The patient stood these three major operations remarkably well. He began at once to improve, the wounds all did well, the head wound especially. He was very drowsy for several days, but could be aroused and could answer questions. His mental state improved daily and aside from some drowsiness and occasional periods of irritability and restlessness there seemed no cerebral manifestation of evil, until March 3, twelve days after the operation. During the night of March 3 he had a violent convulsion epileptiform in character. The wound of his head was entirely healed at this time and there had been no suppuration. There seemed to be no depression at the seat of fracture and there was no abnormal tenderness. He had no further disturbance until the night of the 7th when he again had a convulsion. On the 8th he had frequent convulsions; toward evening and during the night the convulsive attacks became almost continuous and the patient fell into a very weak comatose condition. Careful observation showed that the convulsion began by turning the face to the right, then twitching of the muscles of the face followed by movements of the right hand and fingers, it then became general. His condition on March 9 was very low, but I determined that there was something remaining at the seat of the fracture which was still an irritant. Under chloroform the scalp was incised along the cicatrix, the flaps turned back and a 1½ centimeter trephine applied at the posterior extremity of the fracture in the parietal bone. After the button was removed by a chisel and a sling steel elevator the

fractured bones (which were seemingly not depressed) were elevated and held up by an assistant. There was pretty free hemorrhage which required hot saline solution and pressure with sterilized gauze to control. The seat of operation was so near the longitudinal sinus I was constantly afraid I should wound it. Luckily this did not happen however. When hemorrhage had been controlled it was seen at once that a detached fragment of the inner table had been driven down into the frontal lobe of the cerebrum and lay imbedded in the softened brain tissue. The dura was entirely destroyed for a space of about 2x3 centimeters, and there was a pretty large escape of brain matter. After all the softened tissue, shreds, etc., had been removed and the offending piece of bone taken out, a pretty large cavity was left in the anterior lobe of the cerebrum near the middle line. Indeed the process of the dura which separates the two hemispheres in the longitudinal fissure was laid bare from its cerebral side on the left. This cavity seemed about 2 c. deep, about 1.5 c. wide and about the same length; The whole of this superficial area could not be covered by the dura. A piece of gold foil cut large enough to come in this space, and prepared as in Case 2, was laid over this cavity and the dura mater sutured and drawn about the foil as much as possible to hold it in place. The large fragment of bone was replaced, but the trephine button was left out, scalp sutured, catgut drain introduced and wound dressed as usual. The patient was pretty low after the operation (the 9th). He had a slight convulsion during the evening. After this there was no further trouble. He had no other convulsion, the wound healed rapidly. There was no paralysis except perhaps a slight facial paralysis which soon disappeared. The mental state was very dull for about a week. He would answer questions intelligently, but slowly and was drowsy. His pupils were dilated more than a week. After this he steadily improved, his usual mental state returned, and he was discharged March 28 quite well.

This case, besides illustrating the usefulness of gold foil, shows to a marked degree the amazing vitality of a human being and the tolerance of multiple synchronous major operations if great care be used to prevent loss of blood.

DISCUSSION.

Dr. Wm. T. Dalby—The paper of Dr. Estes, read by the Secretary, is an exceedingly interesting one. It opens up a new field in brain surgery, particularly in that character of cases where there is great destruction of bone tissue. Since the author of the paper is not here to defend any points that might be brought out in the discussion, I will say nothing further.

Dr. Henry W. Coe—I am sorry the author of the paper is not here because I would like to ask him some questions. The subject is extremely interesting to us. I have seen an operation done for epilepsy in this city (Chicago) in which a plate of platinum was used. The old trephine wound opened up in which there were extensive adhesions, and the cavity was filled with fibrinous material, intimately adherent to the dura. The operator, Dr. Morehead, dissected out the new tissue and put in a piece of platinum. The patient was poor or he might have inserted a piece of gold. The operation was extradural, although he went through the dura mater. I am reminded in this connection that Keen in his work on diseases of the nervous system, which has just been published, refers to the fact, which is contrary to the generally accepted idea, that under present methods the opening of the dura is not a serious undertaking and is not accompanied with very much danger. I telephoned since luncheon to find out how this case was getting along and ran across another in which the operator had used a piece of gutta percha. This operation was also extradural. It was done about twelve days ago. I do not remember the name of the operator. In both of the cases the wounds healed readily and up to date there has been no evidence of the presence of a foreign body. I do not know exactly how thick the piece of platinum was, but it was probably one line in thickness. In the cases which Dr. Estes reports, I understand the gold foil is inside the dura mater, and I for one will watch the history of them with a good deal of interest. In these cases we have a foreign body pressing on the brain, and it will be interesting to know the outcome of them.

Dr. H. Hatch—I regret that I was not present to hear the whole of the paper that has been read. Are we to understand that Dr. Estes maintains that by introducing gold foil inside the dura mater it will prevent adhesions and consequently the after effects in the way of epilepsy?

Dr. Kelly—I believe that is the idea.

Dr. Hatch—A professional friend of mine had a case of epileptic convulsions following an injury upon which he operated. The adhesions in this case were dense and firm. He dissected away the adhesions and proceeded in the manner laid down by Dr. Estes, not applying gold foil. The convulsions did not recur for two or three months, but when they came on again they were as bad as before the operation. It is well to report the unfavorable as well as the favorable cases.

STRUMA GELATINOSA—STRUMA COLLOIDES.

Read before the Chicago Pathological Society, Feb. 10, 1896.

BY M. L. HARRIS, M.D.

PROFESSOR OF SURGERY CHICAGO POLICLINIC.
CHICAGO.

Of the various pathologic changes which may occur in the thyroid gland, that of colloid formation is the most frequent. In order, however, that this colloid formation may receive the title of struma colloides it is not sufficient that a little colloid material be found in the vesicles or follicles throughout the gland as this is often a physiologic condition, especially in later life, but the colloid formation must occur in a circumscribed area or areas, sharply defined from the normal gland tissue and independently of it.

Furthermore, as Wölfler states, there is in these cases an atypical new tissue formation, a budding of the gland tubules, so that what we really have is an adenoma, in the tubules of which the colloid material accumulates, leading to their distension; hence the name applied by Wölfler of adenoma gelatinosum. These new growths may be single or multiple, and when multiple may be scattered throughout a single lobe or both lobes of the gland. The colloid material may liquify, thus forming little cysts, which, owing to pressure atrophy of intervening walls, may coalesce, producing large cysts. As illustrating these different varieties, I will briefly mention the following cases, operated on during the past year:

Case 1. Large single Colloid Adenoma.—E. K., age 21, German; single. Mass size of a goose egg occupying left lobe of thyroid of about one year's standing.

Operation: Enucleation; suture without drainage; primary union; recovery.

Case 2. Multiple Colloid Adenomata of one lobe with cystic degeneration.—Mrs. W., age 44. German, married. Multiple nodules involving right lobe of thyroid, extending from upper part of thyroid cartilage to below the upper end of sternum; of several years' standing; lately increasing in size; considerable dyspnea, voice affected.

Operation: Enucleation of all the tumors, two of which were cysts containing thin, dark, bloody-looking fluid. One of the cysts, size of small hen's egg, extending behind the upper end of sternum, enucleated with some difficulty on account of location. Wound closed without drainage. On second day quite profuse hemorrhage occurred from place where cyst had been enucleated, which was easily controlled by removing a stitch and packing with iodoform gause. Primary union and recovery without further incident.

Case 3. Large Multiple Colloid Adenomata; both lobes. Mrs. K., age 44. American; married. Has had large neck for seventeen years. Since last child-birth, three years ago, tumor has grown quite rapidly. Considerable dyspnea, particularly on lying down. Both lobes of thyroid involved.

Operation: Enucleation. Kocher's transverse incision; wound sutured without drainage. Primary union. Recovery.

The tumors removed from Cases 1 and 3, some twenty in number and varying in size from a pea to a goose egg, are presented. That there is an increased growth of gland tissue in these masses is very evident. The new growth starts in the primitive vesicle or follicle of the gland. The connective tissue envelope of the follicle is pushed aside, and being increased in thickness by the irritation produced by the new growth, forms an investing connective tissue layer or capsule to it. It is the presence of this connective tissue capsule that enables one to enucleate these growths from the surrounding gland tissue.

A microscopic examination of sections of these masses shows very beautifully the gland follicles lined with epithelial cells and greatly distended with the colloid material. In the section here presented, which was taken from one of the small and presumably younger growths, are seen toward the periphery, many tubules or follicles which contain as yet no colloid material. The rapid proliferation of the epithelial cells seen in these tubules leading to the formation of double and even multiple layers of cells shows clearly the active part taken by the gland elements in these cases, and substantiates the statement of Wölfler that these growths are all primarily adenomatous, the colloid formation being a secondary degeneration.

Other follicles are seen containing large masses of detached epithelial cells, many of which take the nuclear stain very poorly, while in others the contained mass takes the diffuse eosin stain, in which, however, can be distinguished very faint circular and broken circular outlines of nuclei, showing that here the detached cells have undergone colloid degeneration en masse. In some tubules the amount of colloid material is very small and seems to be produced by the layer of cells lining the follicles, while others are distended enormously and contain in addition to the colloid mass many detached cells about the periphery. The capsule inclosing these masses is not simply the connective tissue septa pushed aside, but there is here also an hyperplasia as the increased number of connective tissue nuclei in the section clearly show.

In the removal of benign growths of this character complete thoroidectomy is no longer permissible, no matter how extensively the gland may be involved. These growths, being encapsulated, can always be enucleated after the method of Socin, except where inflammation or calcareous or other degenerative changes have occurred. The best incision is the transverse cut of Kocher. It affords easy access to the entire gland and furnishes the best scar. This latter point is one of considerable importance and has been particularly studied by Sultzer. He examined the scars in 100 cases following operations by various incisions. Of sixty-two scars following oblique or longitudinal incisions, in only one could the scar be considered faultless; the others either contracted so as to interfere with the freedom or range of motion of the neck or were wide, shining and disfiguring; while of thirty-eight scars following transverse incisions thirty-two answered all the demands of a linear faultless scar. The incision should be free enough to allow easy access to all parts of the gland. The sterno-hyoid, sterno-thyroid and occasionally the omo-hyoid muscles should be divided and turned aside. In incising the gland tissue down to the capsule of the tumor, proceed where the tissue is thinnest, in other words, at the point where the tumor approaches nearest the surface, due regard being had for the large thyroid vessels, which are readily recognized breaking up on the surface of the gland. Do not begin the enucleation until certain of being within the right layer of the capsule, as tearing in the gland substance leads to very profuse and troublesome hemorrhage. After the enucleation considerable oozing is frequently encountered, to check which packing with iodoform gauze is commonly employed, the packing being removed on the second day and the wound closed. I have usually been able to dispense with this packing by firmly approximating the walls of the cavity by a few mattress sutures of catgut. The posterior surface of the gland must be avoided in passing these sutures on account of the proximity of the recurrent laryngeal nerve. The mortality of enucleation in these cases is practically nil, being less than 1 per cent.[1] The last point to be considered is the question of recurrence after enucleation. Sultzer was able to follow out sixty-three cases of enucleation. Of these, forty-four remained free of recurrence, while in nineteen, other nodules developed; eight times in the same lobe operated upon and eleven times in the opposite intact lobe.

DISCUSSION.

DR. F. C. SCHAEFER—There came under my care recently a case which might be appropriately reported in this connection. I removed a parenchymatous goitre for exophthalmos four weeks ago from a girl aged 18 years. You will notice that it is similar in appearance, excepting the shape, to the specimens exhibited by Dr. Harris. On looking at it from a distance you might think it was an enlarged kidney. At the time of its removal (four weeks ago) it was six inches long, two and a half inches wide and two inches thick at the central part. At one point above its middle portion it presented a hook-like projection, an "accessory" lobe which extended under the trachea, and as the trachea was already flattened by pressure from the body of the goitre, this accessory portion added materially to the embarrassment of respiration. I succeeded in enucleating one-half of the growth, the remainder had to be excised. The gland is very dense and hard. Microscopically the follicles can be seen packed to distention with epithelial cells, irregular in outline, with an occasional spot of colloid. Undoubtedly the disease began in the follicles and the cells of the parenchyma were stimulated into activity by the cell proliferation in the former. A special point in the case is the exophthalmos. The girl presented all the symptoms of Basedow's disease, excepting the bronzed skin. She had marked tachycardia, pulse rate 145; difficult breathing; husky voice; slight protrusion of the eyeballs; tremors of the muscles of the entire body, more especially of the chest muscles. The patient was excessively nervous, could not sit quietly in a chair, and had extremely restless nights; would toss about in her sleep and was frequently obliged to get up two or three times during the night to breathe. I felt, under the circumstances, that the goitre should be removed. The eyes on ophthalmoscopic examination by Dr. H. M. Starkey and myself showed spots of hemorrhage and anemia in the fundus, also congested veins. Sight very much diminished, R. E. V. 20-200, L. E. V. 10-70. In operating I followed the same incision as Dr. Harris (Kocher's) extending across the neck. On the left side I took out only a small portion of the growth, to avoid the sequela of myxodema. The young lady is improving every day, her respirations are improved, pulse rate 105 and she claims that her sight is already much better. I hope ere long to be able to present the patient.

[1] Kocher.

LEPROSY IN THE ARGENTINE REPUBLIC.

BY ALBERT S. ASHMEAD, M.D.

NORRISTOWN, PA.

LEGATION OF THE UNITED STATES,
BUENOS AYRES, Aug. 9, 1895.

A. S. Ashmead, M.D., Dear Sir:—After many days' search and interviews and the incidents therewith connected, I am enabled to send you something in the line which you wish. I inclose copy of two letters from the Director of the Assistencia Publica and Sanitary Administrator of the Government. I also send under another cover copies of works as per memoranda herewith attached. Very truly yours, WILLIAM I. BUCHANAN.

LIST OF INCLOSURES.

1. Two copies of letters from Assistencia Publica.

2. Memorandum: Lepra Tuberculosa, tesis para optar al grado de doctor en Medicina, por Gregorio Hunt. Considerationes sobre un caso de lepra anestesica, tesis para el doctorado, por Jacobo Z. Berra. Climatologie Médicale de la Republique Argentine et des principales villes de l'Amérique.

Letter No. 1, translation:

BUENOS AYRES, July 27, 1895.

To the Minister Plenipotentiary of the United States of America. Mr. Minister:—The Director General of the Public Assistance of Buenos Ayres has the honor of answering the question which Your Excellency has condescended to address to him as to the frequency of leprosy in the Argentine Republic; and gives expression to the information which he has gathered in the pages inclosed. With this object, I greet Your Excellency most respectfully, I. B. SENORANS.

Letter No. 2, translation:

Notes as to the frequency of leprosy in the Argentine Republic.—The Director of the House of Isolation[1] says in his personal report that the cases of leprosy have been known accidentally in this hospital in the years preceding 1892; it is in this year that figure the first entries with this diagnosis, and statistics show an evident tendency of augmentation in this disease. In 1892 there entered into this establishment five lepers, who remained in attendance until 1893, at which time twelve more lepers were received; the sum total was then seventeen, of whom nine left and eight remained sick. In 1894 fifteen lepers were admitted, which, added to the eight who were under treatment, made twenty-three. Of these twenty-three, six left and two died; so that there remained fifteen, who passed to the year 1895. Now, July, 1895, there are only twelve in attendance. The ordinary form is the tuberculous, however there are some anesthetic cases.

Of the patients attended on, in the hospital of isolation, we have not been able to obtain the nationality; but they are very probably mostly Europeans. Dr. Gache, in his medical climatology, points out to the sanitary authorities the frequency of leprosy in the Argentine Republic, especially in the last year. The Province of Entre-Rios offers an immense number of lepers, and in that region the disease has been observed many years before this. Dr. Moyano, in one year of practice, on 309 patients with skin disease, has met with three lepers, one coming from Brazil, another from the Argentine (Province of Corrientes), and a third, also coming from Argentine, was the son of French people, the father being a leper. This patient comes from Pergamino (Province of Buenos Ayres); his father and four uncles had this same disease developing itself there, but they came healthy from Europe.

Dr. Sommer says that the Province of Corrientes is that which has the largest number of lepers; after it come the Provinces Entre-Rios, Cordoba and Buenos Ayres. In the City of Tucuman, at the time when its population amounted to 30,000, there were seventeen lepers.

In his opinion the tubercular and nervous forms exist in equal proportions. The largest part of the cases presented general symptoms, of which the more constant were cephalalgia and fever; others were characterized mostly by erythematous or pigmented spots, with alterations of sensibility. The same physician believes that leprosy is contagious, and his opinion is based on observation. He thinks that the bombilla (an instrument with which is imbibed an infusion of *yerba mate*) of the mate[2] is the vehicle of contagion.

As to the treatment, the oil of chaulmougra at the dose of 200 drops a day, has been found the best specific.

Dr. Canevaro, a physician of Corrientes, says numerous cases of leprosy come under the observation of the physician, not only among the poor, but also among the rich. He has seen many instances of it in Goya, and other places of that Province. The natives of that region consider contagiousness as principal cause of the disease; this is proved by numerous families in which the disease has broken out. Much influence is also attributed to abuse of alcoholic drinks, and of the meat of "Carpincho," and of pork, of which the poor people consume a great quantity, especially of the first. It is also believed that the atmospheric vicissitudes exercise a great influence upon the development of the disease, especially in the case of people who are compelled by their business to be constantly exposed to the humidity of the soil, and of the atmosphere with insufficient alimentation; for instance, the people who have to travel in the bushes.

Dr. Canton, in the Province of Salta, has found leprosy to exist. The Director General of Public Assistance of Buenos Ayres, intending to prevent the diffusion of leprosy, has advised the respective authorities to adopt means tending to this end.

As a bibliographic remark, I observe here that Dr. Emilio R. Coni, in 1879, published his doctorate thesis on this same disease. Dr. Jacobo Z. Berra, in the same year, and Dr. Gregorio Hunt, in 1886, made their doctorate dissertations on the same theme.

The Minister may give to whosoever wants them the data given above; I add these last two works and the work of Dr. Gache, entitled Climatologie Médicale. J. B. SENORANS.

ANESTHETIC LEPROSY.

Considerations on a case of lepra anesthetica by Dr. Jacob Z. Berra, Buenos Ayres, 1878.

Manuel Rios, native of Paraguay, is a man of about 46 years of age, a railroad foreman, with a deteriorated constitution, of nervous, lymphatic temperament; good antecedents. Had paralysis of right arm and deviation of the mouth, when about 9 years old; he attributed it to a cold which he caught while perspiring in bed. It disappeared after three months. At 12 or 13 years, he got two buboes, appearing spontaneously. Had never had sexual contact. This terminated after a few days by suppuration. Attack of general articular rheumatism after a few days. At puberty he suffered of a blennorrhagia (non-venereal) after eight days' horseback riding; urinated blood. In 1865 he went as a soldier in Paraguay to Rio Grande, and suffered in the passage through the frontier of Corrientes of a dysentery, which was epidemic in the army. As a prisoner he was sent to Buenos Ayres, where he became a peon on the railway of the east; had perfect health here, until summer of 1870, when he was caught in a great rain while perspiring; he did not change his clothes till night; had chills and fever for five hours. He felt formications after a few days in feet and hands, which lasted a year, more or less; the said extremities remained in such a condition of debility that he could not take with his hands the smallest object; loss of sensibility accompanied it; tears constantly fill his eyes. After months the index finger showed a phlyctena, which burst of itself, letting escape a clear, transparent liquid. An ulcer appeared in its place, of offensive smell; out of this came pus and fragments of bone. Anti-syphilitic treatment tried in the hospital without success. Other fingers became implicated; left hand; then the feet. While these phenomena manifested themselves the sensibility and the motility of the regions affected experienced also profound perturbations, etc.[3]

The differential diagnosis with the mal perforans, does not present great difficulties, if we remember: 1, that the disease occupies principally the level of the points in which the callosities are formed and those which touch the soil; for instances, the big toe, the

[1] Hospital of contagious diseases with 400 beds.

[2] "Le Mate est l'aliment indispensable à la campagne; il constitue le déjeuner obligatoire du paysan qui ne sort jamais sans l'avoir pris. Dans les villes, il n'est presque plus admis; toutefois dans quelques régions de l'intérieur son usage est tellement exagéré qu'on lui attribue de nombreuses dispepsies."—Climatologie Médicale par le Dr. Samuel Gache.

fifth metatarsian, the inferior face of the calcaneum, and sometimes the dorsal face of the fingers; 2, that it begins by a swelling of the epidermis, which in a short time detaches itself on account of a sero-sanguinolent and purulent secretion falling in an extent of one to two centimeters, when there appears under it a dermis, red and papillous; 3, that the epidermis thickens around the ulcer and forms a very characteristic wheal, which becomes smaller gradually, by the approximation of its borders; 4, that there is not as in lepra formation of phlyctenæ; 5, that it localizes itself in the feet, and shows no tendency to generalization through the other parts of the organism; 6, that sometimes there is anesthesia and when this is the case the anesthesia is limited to the ulcerated point.

Such are the essential characters of a mal perforans; they have nothing in common with anesthetic lepra.

Let us see if we can confuse with any of these three kinds of spontaneous gangrene: 1, that which is caused by an arteritis; 2, that which is the production of an embolism; and 3, the local asphyxia and symmetric gangrene of the extremities.

LEPRA ANESTHETICA. BERRA'S CASE.

In order to exclude the first two it is sufficient to bear in mind, that in our patient there have not existed, and do not exist any alterations of any kind, either in the heart or in the remainder of the circulatory apparatus, which could cause the development of an arteritis, or the formation of embolismus, capable of producing the disturbances which are before us. Besides, the slow march and the long duration in our case exclude affections of this kind.

As to the third kind, we know that the local asphyxia which precedes the symmetrical gangrene of the extremities, shows a course and development entirely different.

According to Raynaud, who has given the best description of it, this affection is a variety of dry gangrene, which is distinguished by two notable characters: 1, the absence of any anatomic alteration appreciable of the vascular system, and 2, invariable symmetry of its manifestations.

The local asphyxia begins almost always by a finger, forming an affection rather common, known by the name of *dead finger*. The skin assumes a tint of faded white, sometimes yellowish; it looks exsanguinous, and the sensibility seems to be exhausted. This state is of short duration; after a few minutes, sometimes of an hour or two, the parts return to their normal state, the reaction being in certain cases accompanied with a rather sharp pain. When this state instead of being limited to one or two fingers, extends itself to a whole section of a member, an enfeeblement of the arterial circulation is observed. In cases a little grave, the skin takes a bluish-white hue, violaceous, slatey; venous livid stains appear in distinct places; the cutaneous sensibility is abolished; sometimes the patients complain of a very sharp pain; presently the reaction is produced, the stains lose their livid color, the skin, little by little, resumes its normal coloration, and everything is again in order.

In cases where the accidents of gangrene are to be manifested things come to pass in the following manner: Sometimes the extremities become pallid and exsanguinous, or they take a lilac color; the patients complain of formication and itching; later on, the skin and the nails assume a violaceous color, and those parts are icy cold. Sometimes the skin is violet from the beginning, the patient feels itching; he thinks he has chilblains, but this itching is presently replaced by a pain, which sometimes is very acute. Quickly, livid stains show themselves along the fingers and ascend sometimes to a great height in the corresponding member, the dark tint increases, and the fingers become completely black and anesthetic; small phlyctenæ appear at the extremity of the last phalanx; they burst and leave the dermis uncovered. These small ulcerations persist for some days; in other cases the phlyctena is dried subsequently, but the gangrene does not extend itself; the wound, on the contrary, cicatrices leaving a small conical tubercle, more or less salient. The same series of phenomena presents itself, in the same finger or in the next fingers. When this process has taken place frequently, in the same finger, the latter is remarkable by the tapering form of its extremity by the hardness of its tissue, and by its faded appearance. In some individuals, the finger takes from the beginning, that parchment-like form; the skin is lion-like yellow, and after sometime pellicles thick and very hard, detach themselves by tatters.

In other cases the gangrene presents from the beginning all its intensity; the nail is completely black, the little phalanx takes a hue more or less dark, there is a real mortification; but the alteration is not deep. After a few days, a work of elimination begins and very soon scales of one or two millimeters in thickness detach themselves, leaving uncovered the papillæ on which fleshy buttons develop themselves; the cicatrization comes soon. Very frequently this mortification shows itself in a parallel direction in the corresponding fingers; sometimes it has been observed in the four members, and hence the name of symmetrical gangrene, which Mr. Raynaud has given to it. It happens not rarely, that these stains present themselves symmetrically in the heels of the two extremities. In some individuals these different states may manifest themselves at the same time. This mortification is sometimes observed in the nose, and the pavilion of the ear.

Beside the symptoms which are revealed by this description of the disease there are differential characters as follows:

1, the invasion of anesthetic lepra is slow and increases gradually, while that of the symmetrical

gangrene of the extremities in its chronic form, is very brusque as a rule, and reaches very rapidly a certain intensity. 2, the prognosis of leprosy is always grave; that of symmetrical gangrene is, as a rule, benign. 3, anesthetic leprosy is fatal, gangrene of the extremities never causes death by itself. . . . .

There exists an affection known in Guinea by the name of Yaws, which produces deep alterations in the skin, and in the subcutaneous cellular tissue; in order to distinguish it better from anesthetic leprosy, we shall describe it in a few words.

It attacks specially the badly fed negroes, and it is eminently contagious. It begins by white stains, looking like the pricks of fleas, or like small papulæ, which occupy especially the forehead. After a few days they convert themselves into broad pustules covered with irregular crusts, and of little adherence, beneath which are found ulcers, of a deep red in well constituted subjects, and are white and depressed in feeble and sickly people. As a rule there are various successive eruptions, and there is also, as in the pian of America a pustule larger and more elevated. The duration of the disease is six to ten months; the fungosities finally are quite depressed and leave only slight cicatrices. This disease was considered by many authors as a peculiar form of syphilis, which was to be combatted by sudorifics and mercury. To-day we know that it is a cutaneous affection in which the last remedy is harmful. . . . .

In order to differentiate it from pachyderma or elephantiasis of the Arabs, we have only to remember the gross and formless aspect which this disease gives to all the parts it affects; that it is produced by repeated inflammation of the skin, and by frequent and constant obstruction of the veins, and lymphatic vessels which distribute themselves through the same, occasioning sometimes an enormous increase of volume of the dermic conjunctive tissue, of the subcutaneous and intermuscular tissue, and also of the periosteum; that it keeps as its preferred seat the leg, which acquires a volume double or treble of the normal; it presents itself with less frequency in the superior members, the scrotum, the penis, and labia majora. We must finally bear in mind, that in this disease, there is no anesthesia.

TUBERCULAR LEPROSY.

Dr. Gregory Hunt (*Lepra tuberculosa.* Tésis para optar al grado de Doctor en Medicina, por Gregorio Hunt, ex-practicante interno del Hospital Nacional de Clinicas, Miembro del Circulo Médico Argentino y de su Comision Directiva, Buenos Aires, 1886) says:

Genesis and Etiology.—For some, exclusive use of fish and especially of salt or rotten fish is bad; for others, the meat of pork daily eaten, either salted or not, is in the same conditions.

We shall try to prove that an exclusive diet can not be a sufficient cause to produce leprosy in the places where it is endemic.

Leloir has observed that the fishermen of Norway, who live almost exclusively on fish, which is moreover often a state of putrefaction, suffer nothing but chronic gastritis. What would be sufficient to prove, that this deplorable diet is not the cause, says the same author, is that the fishermen and peasants of the southern and north sides of that land, although their diet is as bad as that of the west coast, are yet not attacked like the others.

What has mostly called the attention is the water which they drink, and the manner of preserving it.

That water is not drinkable, and is kept in small wells, in the middle of immunditiæ and mires of salt water which are found by the sides of the houses in which these people live. Is not that perhaps the origin of this disease?

As to the pork, there is nothing that justifies in saying that it is the only cause of this affection; for although in certain localities where the latter is endemic, we see some of the inhabitants eat much of it, there are other places where it is not eaten at all, where nevertheless the disease exists. We see finally that the inhabitants of the Riviera (Italy) where it is also endemic, people live on vegetables, fruits, potatoes, etc. So that certain alimentations condemned by some physicians as being the cause of the development of leprosy, do not exist there.

Neither can insufficient alimentation be its cause. The Siberian peasants, the inhabitants of Terra del Fuego, the poor families of the great centers of population like Paris, London, even Buenos Ayres in which there are so many wretches, whose nutrition is not sufficient, are, in spite of that, rarely affected.

On the contrary there are persons well fed, and whose life is hygienic enough, who become the victims of this disease. These are a minority, indubitably, but let us not forget that there are more poor people than rich. On the other hand, the former are more exposed to disease than the latter.

Organisms debilitated either by bad diet, alcoholism, excesses, etc., are more exposed to sufferings, than strong ones; these repel very often the morbid germ, because they are not in a condition of morbid opportunity. Thus it becomes clear that all things being equal, the same organism resists, for instance, in one case the action of the cold while the same organism changing somewhat in power of resistance in consequence of bad alimentation, drinking, etc., when it is again exposed to this action, is affected, for instance, with pneumonia.

After all these considerations which we have enumerated in a summary manner, we can not accept the distinct causes which we have named, as being the exclusive producers of leprosy, although they may work, as predisposing agents, preparing the soil. . .

He believes in inherited predisposition, but that the disease itself is not inherited. . . . The physicians of Rio Janeiro believe that this cause (heredity) is indubitably in the disease of which we speak but that only it skips generations as is observed with tuberculosis. It is an open question whether many of the cases which are supposed to be hereditary are not cases of contagion from father to son. An author who has observed the life of the lepers of Norway, and thair manners, says that the way of living of the people and of many families, explains to us how, even in the absence of any heredity, a disease very little contagious, can develop and extend itself. The peasants of Norway are very dirty according to Leloir; most of them never took a bath. They wash sometimes (once a week) their face and their hands, the feet once a year, but the rest of the body remains untouched by water, from their birth to their deathbed.

Their clothes, which they never take off, even when they go to bed, are generally of wool. They are never washed, the filth is allowed to accumulate and these same clothes, when they are not rotten, are transmitted from generation to generation (Leloir). Now is it

not possible that these immunditiæ carry the contagion to the healthy subjects? We believe that this may be one of the means of propagation of leprosy in Norway, and that many cases which are considered as hereditary result from contagion. . . . . As to contagion, he says: No, it is not possible that in face of the great feats of modern pathology, contagion can be denied and isolation declined! . . . . .

Parasitic Origin of Lepra.—To sum up, we believe that the experiments which have been practiced up to this time, both in man as well as in some animals, are not sufficient to declare that this disease is inoculable. . . . .

Diagnosis.—The diagnosis of tubercular leprosy is very difficult when the disease is in the period of invasion, and this difficulty decreases only when there appears the eruption of maculæ and especially tubercles. The latter are characteristic, and he who has once examined a leper can never mix up this disease with any other disease. We have seen that the symptoms which are observed in the period of invasion are like those presented by other infectious diseases. At this period the diagnosis is very difficult, and we can only have presumptions more or less founded, when we find together many of the symptoms characteristic of the disease, and hereditary antecedents, which show that lepers have existed in the family, and the patients coming from an infected land. Only in that manner we can think of a diagnosis; but we can not affirm yet in an absolute fashion that we have before us a case of leprosy.

In the period of eruption of maculæ we meet also with some difficulties in making the diagnosis. The most experienced physicians have made blunders; but if we make a long study of the history and symptoms which present themselves, we can succeed in establishing the diagnosis.

One of the affections with which confusion would be most easy, is roseola syphilitica; but the maculæ of leprosy have their seats of predilection, and are also larger, since they can reach the dimensions of the palm of the hand, and be accompanied by phenomena of anesthesia and dysesthesia; and, finally, it will be distinguished by the antecedents and the specific treatment of syphilis. There may be found some difficulties in some other affections of the skin, like the dry eczema, erythema, and papulous marginate purpura. The spots of the disease of which we occupy ourselves do not present desquamations, and if they exist they are very rare; the same thing does not happen with most of the morbid conditions of the skin. Anesthesia or dysesthesia, alteration of the sebaceous glands, and the falling of the eyebrows, the beard, as well as the antecedents of the patient, and the situation of the maculæ will serve as a basis to establish our diagnosis. The pigmented maculæ, which are almost always accompanied by dysesthetic phenomena at their level, and if their center becomes achromatous, by an absolute anesthesia, can not be confounded with certain normal pigmentations of the skin, and much less with vitiligo.

Morpheæ and scleroderma in patches are differentiated from leprosy, according to Leloir, by the absence of anesthesia or only a very small diminution of sensibility, and by the violaceous little ring which surrounds the patch of the morphea, flat and white.

The leprous pemphigo is distinguished without much difficulty, if we take into account the antecedents of the patient, the number of bullæ (they are rare in leprosy), the cicatrices "nacaradas," the anesthesia at this level, the concomitant nervous phenomena, hyperesthesia and anesthesia of the extremities. Such are the skin diseases which having some points of resemblance with leprosy, might induce us into errors of diagnosis. . . .

Prognosis.—Leloir refers to two cases of cure observed by Dr. Kaurin.

We see, therefore, that if in the annals of science there are found cases of cure those cases are very rare. The rule of the termination of lepra is death, cure is the exception. In presence of all the antecedents, we do not hesitate to say that the prognosis of this disease is very grave. . . .

Treatment—Hygienic treatment has given the best results. Transplantation (removal to another country) is recommended. Temperate climates are preferable, also altitudes; nutritious diet, not too seasoned. Exclusive diet is generally harmful; it ought to be animal and vegetable. Milk, meat, fresh and well cooked vegetables, boiled eggs, etc., is the best alimentation for lepers; pork, salads, crustaceans, alcoholics, tea and coffee are to be prohibited; cleanliness.

Isolation of the lepers is a means sufficiently efficacious to prevent the propagation of the disease, and statistics prove the fact. . . .

The natives of America did not know any such disease; it is a pathologic inheritance bequeathed to us by Europe. Among the natives of the New World, who have not as yet mixed with civilized races, there is no lepra. . . .

Dr. Hunt, in referring to the alleged cure by Unna, of a case of leprosy, says that Dr. Unna's conclusion is unscientific, since he ought to have taken into account all the considerations "which we have mentioned," in order not to expose himself unpremeditatedly to criticism.

He says that in the first period of the disease it happens readily that it offers improvements which look like cure and which may endure for years without there being any cure. He refuses to accept Dr. Unna's statement that leprosy is curable.

CASE OF RUPTURED TUBAL PREGNANCY, WITH REMARKS.

BY J. WESLEY BOVEE, M.D.

WASHINGTON, D. C.

The history of this case is as follows: Cora M., colored, 22 years of age, was admitted to my service in Columbia Hospital for Women, March 2, 1896. She was married and had one child three years ago after a normal labor. Her menstrual flow began at the age of fifteen, generally lasted three days, was regular, profuse and on the first day was usually very painful. It appeared Dec. 12, 1895 and lasted five days. Up to this time she enjoyed good health. Vague pelvic pains and indigestion ensued and continued to the time of her first severe attack. This occurred Jan. 20, 1896, when the pelvic pain became intense and she passed from the vagina a large blood clot. She had missed a menstrual period and thought this was an abortion. From this she soon recovered and was out of bed in two days. The pain and flow continued, however, and February 17 she applied for relief at the outdoor service of Columbia Hospital. There an examination was made and a fluctuating mass was found behind the uterus. She was advised to enter the hospital at once but returned home and

resumed her household duties. On February 27, she was attacked with sudden, severe pain in the lower part of the abdomen, followed by frequent attacks of syncope. She remained in bed, attended by Dr. C. Marshall until her coming to the hospital March 2. The flow has continued since the abortion. The bowels have not moved since February 28, and she complains of severe pains through the abdomen. She was very feeble; unable to walk, the extremities were cold and she seemed nearly exsanguinated. There was slight edema of the legs and the abdomen was distended by fluid and gas. The mucous membranes of the lips, tongue, conjunctivæ, and vagina were very pale. No glandular enlargements were noted. The urine had a specific gravity of 1,024 and contained albumin and pus; the pulse was very feeble and the temperature subnormal.

A diagnosis of probable ruptured tubal pregnancy was made. When the abdomen was opened March 5, 1896, we were not at all surprised by the pouring out of a large quantity of black, semi-solid blood as soon as the peritoneum was incised. By passing my fingers downward, the top of the slightly enlarged uterus was felt and recognized and the right appendage, other than a few adhesions of the ovary, was found to be normal and not removed. The ovary contained a corpus luteum. The left Fallopian tube was much lengthened and in its first two or three inches was apparently normal. It, however, continued around backward, much as does the round ligament in front, and ended in a sac attached to the rectum, the uterus being free from the sac. This sac had ruptured and, lying partly in and partly out of it, were the fetal membranes, the fetus and a large mass of blood clots. The ovary of this side was apparently normal and contained no corpus luteum. The fetus was of about six weeks gestation. The appendage was removed and the abdomen flushed with hot water, large clots being washed out of it, even from behind the liver and near the spleen. No drainage was used and the wound was closed with kangaroo tendon, buried both subperitoneally and subcutaneously; 1500 c.c. of normal salt solution was thrown under the skin and she made a complete recovery.

Tubal pregnancy has been found to be far more common than was formerly supposed. Rupture has occurred before the attention of the physician is called to it nearly always. That it has become more common is, no doubt, due to the more frequent resort to abdominal section as a means for dealing with the various pelvis troubles and that the condition is seldom found before rupture, is due to the fact that it usually gives very little annoyance previous to that accident. Many times operations for other conditions are planned and when the seat of disease is reached, a ruptured tubal pregnancy is found. Wide and prolonged discussion of the advisability of operating on ruptured tubal pregnancy, after the danger from hemorrhage has passed, has led to the almost universal opinion that it should not be treated on the expectant plan, but that nothing short of surgical interference will entirely remove all danger. It has been seen that dangers nearly as great to the woman as the loss of blood may ensue, and that surgery is necessary to restore these unfortunate women to health. Infection of the blood clots, or of the sac, with the possibility of septic peritonitis, sometimes fatal, is by no means an infrequent feature in those cases that were considered very mild, *i. e.*, those in which the blood loss has been slight, especially when it was inside the broad ligament and consequently limited in amount. If not peritonitis, then septicemia tries to do the injury to life and health. Cases have been frequently reported in which temporizing operations were done for the removal of pus when death was not far away and the lives of the patients saved, and this in the very mild cases even, perhaps, undiagnosed. The very bad cases either die promptly or are operated on as a *dernier ressort*. The milder cases, therefore, are comparatively safe ones for operation and should not be allowed to proceed into the dangerous channel above mentioned. They, as well as the severe ones, should be, as a rule, operated as promptly as the existing conditions will permit, though often the operation may be postponed a few days to the advantage of the patient. It should be thorough, if possibly admitted by the condition of the patient, during the operation. If we find she does not stand the anesthetic well, or that the organs most easily affected by ether or chloroform are at all pathological, or that shock seems at all marked, the operation should be as rapid as possible and confined as much as possible to the removal of the ruptured tube, blood clots, membranes, etc., and a rapid closure of the abdominal wound, with or without drainage. If time and conditions permit, the abdominal and pelvic cavities should be thoroughly irrigated and all clots washed out. When the irrigating fluid returns clear it is quite certain the peritoneal cavity is well rid of them. If the case be a recent one and the hemorrhage considerable, it may be wise to pour into the abdomen a few liters of normal salt solution, just before the closure of the peritoneum is finished. The absorptive system will take up as much of it as is necessary to restore the usual blood pressure of the individual and the surplus, if any, will be carried off as waste. The same solution by hypodermoclysis is extremely beneficial in these cases, it being a fairly rapid way of putting it into the circulation and not being liable to over-distend the circulatory system as sometimes does occur as a result of infusion directly into the veins.

On March 23, 1895, I operated for ruptured tubal pregnancy in which septic infection was already present as a result of an attempted criminal abortion by means of the insertion of a catheter into the uterus and retaining it there a very long time, the patient taking quite a long railroad journey in the interim. This case was published in *The American Journal of Obstetrics*, N. Y., 1895, xxxii, No. 3, 387. The following September 27, I did another operation for ruptured tubal pregnancy at seven weeks. The case was reported in *The Virginia Medical Monthly*, Richmond, 1895, xxii, 957. In those two cases, as well as in this one, the injured tube was the left one, which tends to confirm the statement of Lawson Tait, "That the left tube is nearly always the one pregnant in tubal pregnancy." In one of these two cases the corpus luteum was found in the ovary on the side opposite to the pregnancy, as was the condition in the case here reported. The relations of the appendages in this case are not devoid of interest. The right ovary was down in Douglas' pouch and firmly adhered there. The pregnant tube was also fastened down in close proximity to it. Whether the ovule was expelled by the ovary into the peritoneal cavity and accidentally found its way into the Fallopian tube, or whether the tube embraced the ovary of the opposite side can not be stated; nor can we be confident that the

pregnant tube was pervious at the time of the impregnation. It is just possible the spermatozoa passed through the right tube into the peritoneal cavity, then into the outer end of the left one and there impregnated. This, however, seems too far-fetched to receive much earnest consideration.

I have reported this case to show how frequently cases are found in which tubal pregnancy has ruptured a few days or even weeks before and in which the danger from hemorrhage has been practically passed, but in which repeated losses ensue and in which other dangers confront the patient and stand ready to prevent a recovery, and to also show the advisability of attempting to relieve this class of cases by operation or, very often, to save their lives. I believe I have done about seventy-five abdominal sections during the time in which these three cases of ruptured tubal pregnancy have occurred. At that rate it would seem that 4 per cent. of abdominal sections are for this grave condition. This statement, I am inclined to think, will be borne out by the experience of men who have had a much greater amount of this kind of work than I have had.

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TYPHOID FEVER.

BY F. M. GREENE, M.D.

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Until recently typhoid fever has been regarded as a self-limiting disease, always ending in lysis and occupying a period of three or four weeks' duration. It is observed of varying degrees of intensity, from a mild attack, in which there may be only slight elevation of temperature, and the patient does not take to his bed, to the severest type, in which from the beginning there is great prostration, and the patient rapidly succumbs to the intensity of the poison.

Complications and sequelæ are to be dreaded alike in the mild and severe forms, and not infrequently in the midst of a mild attack, or after convalescence has apparently been established, we may have ulcerations of the ileum, resulting in grave hemorrhages, or perforation of intestine, with peritonitis and speedy death.

Under the old régime, there were observed four distinct periods to the disease, and a schematic representation of each was characteristic and typical. During the first there was a gradual increase of pyrexia with evening exacerbations reaching sometimes 105 to 106 degrees. The second period was one of continued fever, with only slight remissions. In the third the disease was remittent, with exacerbations less and remissions greater. The fourth was one of intermittence and there was a gradual return to normal temperature. In fevers of inflammatory type the pyrexia is never continuous for any great length of time, since in all are observed more or less remissions during twenty-four hours.

It is usually during the second period that grave complications begin to appear. The patient becomes apathetic and drowsy, takes less interest in his surroundings, with muscular movements feeble and uncertain. Wandering in mind, he appears confused and forgets to withdraw his tongue when asked to protrude it. Already red at tip and edges, the latter now becomes dry, cracked and fissured, sordes upon teeth, gums and lips, with altered blood issuing from the nostrils. Subsultus tendinum, picking at imaginary objects, and with hallucinations, he attempts to leave his bed, or wildly asks to be taken home.

These symptoms now deepen into coma; the urine and feces are passed involuntarily. During this period or later we have the serious complications mentioned above and resulting from ulcerations of the ileum.

If the patient survive, he now enters upon a slow and tedious convalescence, which may be extended indefinitely. The brain or nervous system may suffer permanent injury, or the patient fall a prey to septicemia, pyemia or tuberculosis. We have drawn the above picture in order to contrast the disease as treated formerly with that under the modern disinfectant and antiseptic treatment. The pathology of typhoid fever has long been known; its etiology has only been recently established.

The typhoid bacillus enters the system through food or water, and finds its habitat primarily in the glands of the ileum. In his pathologic anatomy and pathogenesis Ziegler says: "The marked changes in typhoid fever appear chiefly in the lower part of the ileum, and upper part of the colon. They are seldom met with much higher or much lower in the intestine." The old and stereotyped idea that typhoid fever will run a prescribed course, uninfluenced by remedies, still prevails to a great extent in the profession, and an expectant plan of treatment is usually adopted. Brandt, of Stettin, a few years ago, introduced the hydriatic or bath system of treatment in typhoid fever, and with a reduction of mortality heretofore unknown in the history of the disease. This in a great measure superseded the use of all other antipyretics.

The application of cold water by effusion or submersion is followed by reduction of temperature and amelioration of symptoms generally. The tongue becomes moist, delirium disappears and the patient is disposed to take nourishment. The bath plan furnished the safest and most effective antipyretic known at the time of its adoption. Serious complications and sequelæ, however, followed even this treatment, and it does not in all cases prevent hemorrhage or perforation. The *modus operandi* of the Brandt treatment has not been fully explained, but experiments have shown that it is an effective means of promoting leucocytosis or increase of the white corpuscles.

Mestchnikoff's theory of phagocytosis explains the manner in which a cure is effected by the natural powers of the system. The leucocytes show a positive attractive force (chemiotaxis) toward the proteids constituting the body of the vegetable parasites known as bacilli, and on coming in contact with, digest, destroy or remove them from the system. Applying this theory to the disease under discussion, the conflict is between the leucocytes and typhoid bacilli which, having first entered the glands of the ileum, multiply rapidly and enormously in the warm blood plasma. The leucocytes are doubtless overcome and poisoned *en masse* by the overwhelming numbers of bacilli; a toxin results, which proves rapidly destructive of the tissues and blood itself. The eminent author on fevers, Graves, desired to be inscribed upon his tomb the motto, "*I feed fevers*," but did not know that in doing so, he was only reinforcing battalions of leucocytes engaged in deadly conflict with pathogenic germs.

If our knowledge of its etiology be correct as that of its pathology, it follows that there must be two principal indications in its treatment, first to destroy the germs at their point of entrance (*locus læsionis*), and secondly, to counteract the toxin resulting from

their presence in the blood. Several years ago Dr. John Eliot Woodbridge claimed that he had succeeded in aborting the disease by the use of certain remedies in its earlier stages. In a paper read before the AMERICAN MEDICAL ASSOCIATION in San Francisco, and again at its meeting in Baltimore recently, he fully explained the treatment, claiming that it was abortive and rapidly curative. In the discussions which followed the reading of papers upon the treatment of "Typhoid Fever in Children," much time was consumed in discussing the Brandt method, which was highly extolled, and only slight allusions were made to the Woodbridge method, and in terms not altogether complimentary. Having treated a number of cases of the disease during the past summer and autumn, and succeeded in aborting it, we have no hesitancy in adding our testimony to its superiority over all other methods.

Under the antiseptic and disinfectant method we have really but two periods to this formidable disease —first, a period of rapid reduction of temperature, and secondly, the period of convalescence. By destroying the germs early in the attack, and before the development of toxins, we at once abruptly interrupt its course and prevent complications so frequent when the disease has existed for any great length of time. Tympanites, when present, disappears, dry tongue and delirium are prevented, diarrhea ceases, pyrexia ceases by the tenth or twelfth day, and the patient at once enters upon a favorable convalescence. With mind clear and muscular strength preserved, he is enabled to leave his bed by the end of the second week, and solid food may be allowed him much earlier than under the old régime, because there are no ulcerations of the ileum to contraindicate its use.

We believe that these results are brought about by both intravascular and intestinal disinfection. It has long been known by physicians that intestinal disinfection is an important indication in the disease, and the difficulty heretofore has been to find a remedy or remedies to accomplish this, and at the same time prove harmless to the system.

Of the combination of remedies recommended in the Woodbridge treatment, it may be difficult to determine the precise rôle played by each. Purgatives were thought to be contraindicated in the disease formerly and in the new treatment they are indicated. Both the podophyllum and calomel fulfill important indications, the latter as a disinfectant and purgative, and the former aids in clearing out the alimentary canal, especially the colon, which is now regarded as the sewer of the system.

Bintz claims, that in its passage through the alimentary canal, the protochlorid of mercury is changed into the bichlorid, and the latter is now regarded as one of the most efficient disinfectants and germicides known to the profession. It is now believed that most, if not all, intestinal affections are caused by specific germs, and we may thus understand how calomel gained such reputation in their treatment. From simple catarrh to the more grave affections of cholera and dysentery, it is regarded as superior perhaps to all other remedies.

The danger from hypercatharsis is not regarded, since the diarrhea will cease and the system immediately rally after destruction of the germs. We believe the carbonate of guaiacol to be the active agent in the destruction of the typhoid bacillus both in the intestinal canal and in the blood and tissues of the body.

It belongs to the phenol group and is the active principle of creosote. Chemically pure, guaiacol is of offensive odor and burning taste, and an irritant. It is insoluble in the stomach. Combined with carbonic acid, it is innocuous and non-irritant, and it has been found to allay irritability of the stomach and prevent abnormal fermentation. Von Heyden found that after leaving the stomach, it was decomposed into carbonic acid and pure guaiacol in the intestines, and it is here that it exerts its proper medicinal effects.

We have observed under its use that the characteristic typhoid stools become more consistent and lose their offensive odor. The odor of creosote is detected now in both the urine and feces. The menthol, thymol and eucalyptol act as intravascular disinfectants, doubtless, as their odor is detected in the perspiration. Large draughts of sterilized cool water promote both diaphoresis and diuresis, by which poisons are eliminated from the blood. It is proper to speak of cases in which these remedies are sometimes not well tolerated, when given in their regular routine. An irritable stomach will sometimes reject formulas 1 and 2.

By the use of sinapisms, and the substitution of guaiacol carbonate, alone, in 5 to 10 grain doses every three to four hours, for from twenty-four to thirty-six hours, we have been enabled to control the irritability and return to the above formulas. Ptyalism will sometimes supervene upon the use of the mercury and we will be obliged to withdraw it. The guaiacol is now to be given, and the simpler aperients, as Hunyadi water as recommended by the author. We may not be able to abort the disease as early with these complications, but its course is still very much shortened and sequelæ prevented. It is superior to the Brandt treatment, because the latter will not abort the disease or prevent serious complications.

RESEARCHES ON RAPID PHOTOGRAPHY BY MEANS OF EDISON'S KINETOGRAPH AND THE ANIMATED REPRODUCTION WITH THE KINETOSCOPE.

SHOWING ALSO BY THIS METHOD THE PRESENT AND FUTURE POSSIBILLITIES OF TAKING AND RE-PRODUCING CERTAIN ANIMATED PHYSIOLOGIC MOVEMENTS AS THE LARYNX, HEART, INTESTINES, ETC., AND CERTAIN DISEASES HAVING VISIBLE SYMPTOMS, ETC. WITH A HISTORIC REVIEW OF FIFTY YEARS OF PHOTOGRAPHY.

Read before the French Academy of Medicine, Paris, February, 1895, and in the Section on Physiology and Dietetics, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

BY J. MOUNT BLEYER, M.D., F.R.A.M.S.

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NEW YORK.

This preliminary paper which I have the honor to present to you, gives mine and other experimental work with the kinetograph, kinetoscope and phonograph. Here, I wish to show the practicability of rapid photography by means of the kinetograph and the rapid reproduction of these photographs after their preparation herein described for the kinetoscope, by this means giving life to each and every possible mo-

tion. This mechanical aid gives us the power to photograph and reproduce every possible physiologic phase capable of visible movements, and in certain pathologic conditions showing their special visible symptoms. Not only can the utility of this instrument be applied in our science, but also to all others. It is my hope in submitting this communication to your critical judgment that what follows herein will give a satisfactory proof of the possibilities for further development and use in this field of study; also that it prove as useful to others, as it has done in these researches made up to this date.

1. GENERAL REVIEW OF FIFTY YEARS OF PHOTOGRAPHY.

Taking a survey backward of fifty years of photography and contrast this with the possibilities of to-day, when in the darkest of the dark caves or cellars, or on the blackest of nights, the tyro photographer, armed with his little camera, and pistol loaded with magnesium cartridge, can obtain a picture full of vigor and marvelous in detail. This chasm has been bridged over in the fifty years since Daguerre gave before the French Academy of Sciences the secret of his wonderful process. The journey down the photographic history of those fifty years is full of wonderful struggles of mind over matter, strange hopes awakened, magical discoveries set aside, fascinating theories exploded, practical inventions pushing to the front, large areas covered, and more and more individuals of both sexes benefited by this discovery of the progressive scene painter, until to-day hundreds of thousands contribute to our knowledge and happiness in the practice of photography whilst gaining their daily bread.

The story of Daguerre's struggles and victory may well be told at this time, after a lapse of little over fifty years since his grand discovery. It was on the 19th of August 1839, that Arago, the noted French astronomer, before crowded halls and courts, gave the practical details of the process for fixing upon a prepared plate the images of the camera-obscura, and France, by giving an annual stipend to Daguerre and his associate, M. Isidore Niepce, provided that all their compatriots should be free to practice the new art. Arago's speech is even now most entertaining reading and should be familiar to all votaries of the art of photography, but we must content ourselves with little more than a review of some of the points which may indicate the appreciation in which the discovery was held at the time, and the prophetic insight that saw how full of value to science as well as art this great invention would prove to be. M. Arago dealt with the scientific problems of optics and chemistry involved in the search, showing the length of time after the knowledge that nitrate of silver blackened in the light before any successful experiments were made to fix the images of the camera by its use. He paid a tribute to the memory of M. Joseph Nicephore Niepce, describing the process by which, after three days exposure, he had succeeded in forming an image which could be retained on the plate. Such a process could of course only serve for copying engravings or drawings, and was impracticable for landscape, architecture or portraiture.

By an accident a meeting was brought about between Daguerre and Niepce, and a partnership formed, which ended only with the death of Niepce in 1833, after which time his son Isidore continued the researches. Here it may be well to say, though it is not a part of M. Arago's speech, that Daguerre's processes proved to be so much more rapid and perfect than those Niepce was using that in the latter part of 1837 an agreement was signed between the two partners permitting the name Daguerre to be associated with the discovery, and it was many years before the small "d" headed the word daguerreotype.

Up to the time of Arago's explanation public curiosity had for a year or more been awakened by accounts of the wonderful pictures, and some of the pictures have been shown. Baron von Humboldt, Biot, Arago and other savants were mentioned as having been made familiar with the work, and offering their testimony to the value they placed upon the discovery. One story was afloat that the Emperor of Russia stood ready to give Daguerre 500,000 francs for the secret, and English papers of the day expressed themselves as surprised that so magnificent a reward should have been declined. The sum finally paid was 10,000 francs annually to both of the inventors—6,000 to Daguerre and 4,000 to Niepce, Daguerre receiving the larger sum as he also divulged his secret for making his very popular dioramas. It would be proper here to describe this process of Daguerre but other and more pressing matter crowds upon us. It is now practically obsolete, and though very beautiful, more delicate even than any processes by which it has been set aside, it still has short-comings which soon condemned it. Other methods of picture-making admitting a practically endless multiplication, became in time more popular and have held their own to the present time. The daguerreotype was a positive process; that of Mr. Fox Talbut, of England, to which late improvements can be traced, was a negative process. In 1839 before Daguerre's methods were explained, we find Mr. Talbut writing to the French Academy claiming priority of invention, which certainly, in the light of what we know of Niepce's success, could not be awarded him. Mr. Talbut's process differed so entirely both in means and result from the daguerreotype that it was useless to compare the results, so greatly superior was that of the Frenchman to the Englishman's. The one employed highly polished silver-covered plates of copper; the other, sensitized paper with a grain which deprived the resulting print of much delicacy. Daguerre did not with his invention succeed in portraiture, and the honor of first making a likeness has been always awarded to our own Dr. J. W. Draper.

Without the camera it would have been impossible at picture making. That invention we owe to the brilliant experimentalists John Baptiste and John Vincent Porta, those two twin spirits, the Castor and Pollux of the natural philosophy of the 16th century, and whose scenical museum delighted and awed, by its optical illusions and treasures of curiosities and its natural magic, all learned natives and foreigners. It is a long jump from the so-called beginning of the art of drawing by the tracing of the pretty girl's shadow on the white wall to the chemic discoveries which made it possible to fix permanently that shadow.

Miniature painting, which was a popular mode of portraiture when photography was first discovered, was little by little driven from the field by its less expensive and generally more faithful rival. It is true the daguerreotype was a costly process at first, and efforts were constantly being made to cheapen it. It held its sway until 1851, but soon after that time was set aside by the albumin and the collodion process,

this latter soon having the field all to itself. We can not permit ourselves to enter into the respective merits of processes, yet there are four great divisions, or perhaps we may say three great divisions and one small one, which it is well to bear in mind in reviewing the last fifty years. These would be the daguerreotype from 1839 to 1851; the albumin process on glass plates made practicably in 1849, but soon, in 1851, set aside by the collodion process, and fourth, the great popularizer of photography, the gelatin bromid dry plate in 1871.

Previously to all this history of fifty years review there is to be found the published record of a discovery by Fabricius in 1536 when seeking the elixir which was to restore youth. He threw some sea salt into nitrate of silver, and noted that the chlorid of silver precipitated, though of a white color, became black as ink by exposure to sunlight. But this knowledge does not seem to have been utilized until Scheele in 1777 rediscovered the fact, and a few years afterward Professor Charles, the inventor of the hydrogen gas balloon, spread the chlorid of silver on paper, and placing the head of one of his pupils in a beam of sunlight, saw that the shaded portion remained clear, while the rest of the paper rapidly darkened. Still there was no chemic substance known that would retain the image, so, unless the sheet were put away in a dark place, the whole of it would soon blacken. It might be looked at from time to time in a subdued light or by artificial, or the silhouette thus formed could immediately be cut out and the perfect profile thus saved. The long sought compound by hyposulphite of soda, was invented in 1799, but it was not until twenty years later that Herschel found its power of dissolving haloid salt of silver. Three other chemicals, chlorin, iodin and bromin, were discovered respectively in 1774, 1811 and 1826, so that we find the materials ready only a little while before the final discovery of their marvelous powers. One of the first of illustrated works in which photography was employed was Mr. Fox Talbut's "The Pencil of Nature;" though in 1840, among holiday books advertised as suitable for presents is one in beautiful binding, "Excursions Daguerriennes." Only a few years past over from that period and a need for orthochromatic photography was felt, especially in the use of medicine, etc., and researches were made to that end which have now born fruit, though the new plates are still far from perfect. All through those years we note the patient search for the power not only to translate the image into black and white, but to retain the gradation of color so beautifully pictured on the ground glass in the camera.

A binocular camera was invented by Sir David Brewster for taking pictures for use in Professor Wheatstone's new stereoscope. Lenses of similar power were placed side by side, distanced by the average measurement between the eyes. This was in 1849. We must remember that up to that year paper and the silvered metal were the grounds sensitized for use in the camera. Then came the use of albumin spread upon glass so that it would hold the material used to sensitize the paper in the calotype process. This avoided the grain of the paper and gave a more perfect picture.

In the United States it was estimated that there were ten thousand daguerreotypists by 1850, and some five thousand workmen who were engaged in the manufacture and sale of plates, cases, chemicals and apparatus, or in other ways receiving their support from indirect connection with the art. But the story is too long to tell how and when photo-lithography, photographing on blocks of wood for engravers, and the various uses to which photography is now put, were first employed. Little by little it has traveled the world over, educating and delighting everywhere. When we try to note the spread of this art, we are astonished at the uses to which it is now put. How active the human brain is still in invention the thick octavo volume published each year by the Patent Office containing only patents bearing upon photography, improvements in cameras, shutters, tripods, etc., testifies. Many hundreds of books have been written upon the history of photography and its practice in every direction. Last year's Annual gives the titles of forty-four added to the list. There are over sixty periodicals, appearing in different countries, some weekly, others monthly, a few semi-monthly. Of societies the list gives in America 54, and in foreign countries 107. Even in Japan there is a periodical devoted entirely to photographic matters, called *Sashin Shimpa*. It is a monthly and sells for 15 sen, or about 12 cents.

The facility with which the prepared plates can be manipulated, the ease with which hundreds of the new celluloid films can be carried about, the quality they possess of retaining their sensitiveness for months, the fact that exposures may be made in Central Africa or in the neighborhood of the north pole, and the image not developed until the traveler returns to his comfortable laboratory at home, are all magical advances in the fifty years since Daguerre told his secret. What the next half-century will do with the subtle powers of the sensitive plate remains to be seen. To artists familiar with the study of color any hope that the gradations of hues shall be retained by a negative image and communicated to a positive print seems absurd. Constant progress is being made toward the bettering of the interpretation of color values. The mysteries of chemistry are being tested; chlorophyl, eosin, erythrosin and other new compounds are being employed. Bright, thoughtful, intelligent men are reaching into the unknown world of light and chemistry, experimenting and recording with scientific accuracy the story of their researches. The difficulty consists in obtaining gradations of black and white corresponding to the luminosity of the colors of nature. In copying paintings this is especially desirable, and already a great advance has been made. Even the amateur finds in the market prepared plates with which he can produce results in which equivalent gradations of tones stand for the various tints of color. These plates are called orthochromatic (right color). Experiments in this direction will continue until the full beauty of the image of the camera will be kept in so far that our reds will no longer be coal-black, our blues not faded or white, and our bright yellows dull and gloomy. Experiment in photographing an orange by the ordinary and by the orthochromatic plate will show the advantage of using the latter.

Bearing upon this point comes the latest news, that the modern theory of color sensation due to the excitement of the three sets of nerve fibrils is put to service by Mr. F. E. Ives. He, the account says, "produces simultaneously three negatives from three differently prepared plates by light passed through three screens of various colors, his object being to produce negatives each representing the intensity with

which light affects one of the set of nerve fibrils in the eye. Lantern pictures are made from these negatives, and projected on a screen by a triple lantern. One picture passed through a red that affects only the fibrils excited by red, one through a similar green, and one through a suitable violet, the result being a representation of the landscape or object photographed in its true colors." Mr. Ives has published a book dealing with this subject, which he calls "A New Principle in Helichromy."

Against the clumsy apparatus of the first daguerreotypists we can set an array of cameras of most perfect mechanical construction, each fitted with some special contrivance endearing it to its inventor, and possibly to others. We find the colossal structures in use in certain galleries, and the popular so-called "detectives," the inconspicuous vest camera, or still smaller ingeniously contrived boxes for photographic purposes. To the advance in the construction of lenses, and to improvements in the shapes and principles of cameras, is due, as well to improved chemic processes, the quality of late photographic work. It is interesting to learn why the lenses in existence at the time of the invention of the daguerreotype could not do the work they were called upon to perform. The lenses constructed for use in the telescope and microscope embraced too small a field, including only at most a few degrees, while that for the camera frequently now embraces ninety degrees when employed for landscape work. The portrait lens needed a much smaller field, twenty or thirty degrees being enough, but required to be so large as to let plenty of light through it, and thus reduce the time of sitting. Many were the defects in the early time due to badly constructed lenses. The fifty years have brought improvements of inestimable advantage, and the variety and quality of the lenses now in the market show the progress of the optician's art.

One of the latest improvements, for which the tourist must be very grateful, is the use which has been made of celluloid, on which, instead of glass is spread the sensitive film. One firm called these plates "ivory films." Where once the traveler burdened himself with boxes of heavy glass, he may carry to-day twelve dozen "films" for each box of one dozen glass plates. Stripping films or gelatin and the sensitive emulsion on rolls of paper are admirable for the traveler. It is needless to dwell on the value photography has in corroborating the statement of the tourist who returns from a strange and little-known country. M. Le Plongeon told me of the incredulity with which his friends regarded the drawings which he brought back from his first visit to Central America. Any artist of an inventive turn could have made such pencilings. Not so with the photographs taken during his second visit. The statements of the camera were accepted, their authenticity undoubted. However untrained in drawing, the author may now gather material for illustrating his writings as he journeys up and down the land, for from the lightning express even he may make his "snap shot," feeling quite certain he has a valuable record, which the trained artist can "work up" for him.

The uses to which photography is being put this year can hardly be told. Its value in illustration is well known to all. Here it has helped to popularize artistic work, and cheapen the cost of its production to a surprising extent. Now but a few hours need pass before the thought of the artist is made the joy of the reader, drawing, photographic copy, relief plate, and printing following one another with nineteenth century speed. From the coarse outline of the newspaper "cut" to the wonderful reproduction of paintings by the photogravure process we mount on stepping stones of victorious achievements in photography, made to serve with reliable accuracy the common and the elevated, the political cartoon and the édition de luxe. The reproductions in color of the works of aquarellists are imitatively deceptive, and their educational influence of incalculable value.

We must not pass over the scientific value of Mr. Maybridge's publications on the action of man and the lower animals, or "The Horse in Motion." Upon these records, however absurd and laughable some may be, we must base our knowledge, intelligently using it for artistic purposes. It is well known that the camera can tell us what it sees when the plate is exposed but one two-thousandth part of a second, whilst the human eye can open and shut in about the one-tenth part of a second. We can not, then, say that photography is true for us when it pictures the rapidly revolving wheel as if it were motionless. If an artist paints the spokes, the wheel does not appear to go round; if he paints the blurred effect of the whirling wheel, we accept it as a representation of speed. There are photographic and optical as there are microscopic and optical truths. We do not paint a drop of blood as it looks through the microscope, but as it appears to our eyes. From the unquestioned statement of fact as concerning the action of animals we must train our eyes to see better the combination of position of body and action of limbs, and determine how far old methods are good, though false, and how far the new scientific truths must force us to change the ordinarily accepted and conventionalized forms.

The uses to which science has put photography are very numerous, from records of the infinitely little to the infinitely great; from microscopy, which deals with the invisible, to the vastness of astronomic wonders. The latest contributions to our knowledge of the sun, moon and stars, made by photographs taken by the aid of the powerful telescope at the Lick Observatory, strongly contrast with the researches into the invisible world of nature revealed through the microscope. Dr. Draper made the first daguerreotype of the moon in 1840; Foucault, of Paris, first succeeded in making a picture of the sun in 1845; and it was 1850 before Professor Bond, of Harvard College, made the first daguerreotype of a star. In 1851 Dr. Busch, of Königsberg, photographed a solar eclipse. Two scientists, Professor Schuster and Mr. Lockyer, in 1862 obtained a photograph of the spectrum of the eclipsed sun. In 1881 Dr. Henry Draper had successfully photograped a nebula, and later the spectrum of a star. Even the aurora borealis has been photographed in 1889.

In connection with the study of spectrum analysis, photography has played a most important part, for it has recorded lines not visible to the naked eye—lines revealed only by the photograph in that part of the spectrum in the violet and lavender regions, and even beyond, where all is dark to us. In the study of stars by this procedure we learn how some are like our sun, others glowing masses of matter just beginning to burn, and still others nearly burnt out, like Arcturus and Aldebaran. We marvel, when we think how feeble seems the light of the stars, to learn that only as much

light as can come through a slit one three-hundred and fiftieth of an inch is permitted to affect the sensitive plate. Again, the movements of the earth would in the two hours required to form an image soon carry the light off the plate were there not ingenious mechanical apparatus by which the image is always kept at the same place on the plate. And now photography is not only used for mapping out the known heavens, but the camera reveals to us the presence of stars which the human eye has not seen. For many years Miss Maria Mitchell and her assistants have photographed the ever-changing sun spots. Astronomers from all over the world have met in Paris and arranged a plan for using photography to obtain a picture of the entire heavens. Cameras will be set up in numbers of observatories in many countries, and many negatives made of the entire contents of the universe. It is proposed to catalogue two millions of the brightest stars and note their position with great precision, as until such maps exist many other astronomic problems can not be solved. We know, for instance, that our sun with its planetary system is voyaging through space. These charts will help determine the route and circumstances of the journey.

Dr. Galton's composite photography has been too well described to claim more than a word in recognition of an attempt to put photography to a scientific use. In this country Professor Stoddard, of Smith College, has made many interesting studies and published several articles upon the subject, and Dr. Noyes, in two pictures of the insane, gives composite types showing expressions that perpetuate themselves in individuals during mental disease.

Photography enables publishers to duplicate in little valuable works and store away small negatives of large folios or manuscripts during the process of publication. Trade uses photography to picture its new furniture, gas fixtures, china, etc., reproducing thus objects too bulky for the "drummer" to carry about with him. Instead of the slow process of copying by hand the geometric designs furnished by the kaleidoscope, numberless changes can be readily photographed in a short time, and furnish suggestive material from which to work. The wall-paper manufacturer uses photography to reduce or enlarge patterns; the delicate figures on watch faces can now be made by its use. These watch dials have been painted by hand at a cost of a dollar each. Now, it is said, a photographic process has been purchased by a watch company by which these dials can be made at the slight expense of ten cents each, electric light serving as well as daylight for their manufacture. Even the quality of steel has been tested by photographic examination. The microscope shows steel to be composed of an agglomeration of crystals, by the difference in which its quality may be determined. The piece of steel to be examined at a certain foundry was heated until it was white, when it was photographed, and the resulting negative examined by the microscope. Those little toy pictures in watch charms have to be made by the aid of the microscope; it is said that only one man in New York can do such work. Even fraud can be proved by the use of the camera. A Berlin merchant was detected in crooked ways, and illegitimate after-entries of a number of his accounts were shown by photography. Blue inks appear much lighter than brown. A chemic test destroys the original, but the faithful plate leaves it intact whilst telling the story of the fraud.

In war photography has been used since the English made pictures in the Crimea. Balloon photography has become quite an art. Balloons are said to be perfectly safe from rifle or artillery fire if 700 yards above the ground. Electricity is made to play its part in exposing the plate in the camera attached to the balloon. During the Franco-Prussian war and the siege of Paris small photographic copies of valuable documents and daily papers were made and rolled into quills, which were fastened to carrier pigeons, and thus taken to their destination without the lines. The Eiffel Tower in Paris has been offered Professor Marey to enable him to make studies in photography of birds in flight, and very instructive results are anticipated. Many will remember the picture of the experiment at Willett's Point when the donkey's head was blown off by the use of dynamite, but the picture was taken before the body fell.

The late Mr. Baden Pritchard, whose work in the Woolwich laboratory made him famous, conceived the very valuable as well as feasible idea of reducing the map of a country on little gelatin films so small that fifty or more could easily lie in the top of a field case. They could readily be employed and clearly read by the aid of a magnifier. To render them very serviceable they were tanned so as to be waterproof. In the English army a photographic wagon is used which is fitted up with two cameras and several lenses, so as to make plates of different sizes or for varied purposes. One of the outfits is so contrived as to be readily packed on a mule. Bromid paper and material for making platinotypes are also carried. Both in our army and navy photographic outfits are furnished and some of our officers have become very expert. Photography may be applied to surveying, as Lieutenant Reed, of the United States Army, has described. It may also serve for studies in meteorology. Photographing rifle bullets and cannon-balls in motion has become an everyday matter, but a novel experiment is said to have been made not long since in Berlin by Professor Treeson, who arranged within a cannon-ball a sort of camera which recorded the character of its flight. A tiny pin-hole admitted light, and a sensitive plate within the ball recorded the twists and turns of the projectile in its passage through the air. The gun was fired point-blank at the sun, which sent a beam upon the plate, recording itself as a point, but as the ball swerved more away from the sun a spiral line was formed and marked upon the plate.

In Germany there are many photographic schools, and in one establishment in the midst of very beautiful scenery in the Bavarian Alps more than one hundred pupils have been educated. Last year there was a summer school of photography at Chautauqua and lectures are given each winter at Columbia College. The result of such systematic study ought eventually to advance the art, though at present the students deal principally with practical and scientific problems. At the Cooper Institute and Young Women's Christian Association, in New York, students are trained to skilfully retouch negatives, and thus photography helps a large class in obtaining a livelihood.

There is a side of the practice of photography which humanitarians will welcome. It has been suggested that the camera be used as a substitute for the gun, and pictures rather than corpses be bagged. In all seriousness the suggestion is well worthy of consideration, for the health-giving tramp and the difficulty of the sport are equal in both cases. There

would be a test of the veracity of the sportsman that would doubtless advance the morals of the hunting fraternity. To the fisherman the camera might be valuable to chronicle the marvelous size or number of the day's catch, even if it could not quite take the place of Ik Walton's favorite sport. The naturalist might gain much information of the habits of wild birds and game from the sportsman's album at the end of a season.

There is one service to which photography has been profitably applied which demands consideration, and as it is practiced most effectively in France, it may be well to make a few notes of the photographic establishment at the Prefecture of Police in Paris. Here there is a system of picturing criminals which in connection with another system of measurement, makes it easily possible to identify them. Head, ear, index finger, waist, foot, and the height of the whole figure, as well as the breadth of the extended arms are carefully measured and recorded, as are also any distinctive birth marks, moles, scars, etc. Then the prisoner is taken to well-lighted galleries in the upper story of the building, where pictures of the face in front view and profile, of half and full figure, are made. Since the late improvements in rapid plates it is possible to obtain these pictures even when the subject is refractory. By the use of artificial light 20,000 pictures the size of postage stamps can be made in a single night, and sent broadcast over the country to the police force. There are said to be over 100,000 photographs of different criminals, 40,000 of this number being of women and children. These pictures are now, by the assistance of the classified measurements, so arranged that it is an affair of but little time to determine whether the new comer has ever been in the clutches of the law or not; and if he has, to fix upon him his past crimes and punishments. Modern police the world over have found photography of great assistance, but the systematic care shown by the French might profitably be employed everywhere. The law recognizes the authoritative testimony of photography and often employs it. Photography for the purpose of identification is not necessarily confined to the criminal class. It was employed in 1876 on the season tickets of exhibitors at the Centennial Exhibition at Philadelphia. Another way in which it is serviceable is in reproducing in small size, so that they can be mailed unmounted, the newly finished oil paintings of artists, who may thus reach patrons and show the subject of the new work. Art dealers in America are constantly receiving such photographic notes from European correspondents, and familiar with the general character of workmanship, they can readily determine whether they wish to order or not. Sometimes notes of color accompany the photograph.

Artificial light in the practice of photography has long been found serviceable. The burning of magnesium wire and the electric light furnished sufficient illumination under full control. Within the past two years various compounds have been put upon the market which have popularized the taking of pictures by night, either using fulminating compositions or employing the alcohol lamp and the dry powdered magnesium.

Early in the history of photography its service to architecture was discovered. To-day it brings to every student authentic records of the past, the story of every age, from the lintel architecture of far-away Egypt to the primitive log hut of the Western settler. In the quiet of one's study one may consult details of Moorish intricacy of design, the stately temples of Greece, or the strange gargoyles of a Gothic cathedral. Reproductive processes have cheapened the cost without lessening the value of these pictures, so that the student may store away treasures in their portfolios. Even in more practical ways the blue print is made to duplicate the design of the architect, and enable him by a little outlay of time and money to give his patrons a copy of his own elaborate work. So, too, may the architect keep informed of the progress of buildings being constructed in distant places away from his office, from plans he has made. Careful photographs taken frequently will show every stage of the work, and avoid many journeys which would otherwise be necessary. By this means our government is able to control from the central office the payments for work done in foreign lands. Engineers also employ photography for a similar purpose.

Philip Gilbert Hamerton may be quoted as an appreciator of photography when he writes in one of his thoughtful essays on landscape: "Instantaneous photography is not so valuable for stormy seas in sunshine as in dull weather, because it confounds foam and glitter, but the fidelity with which it renders minor waves is quite beyond all human rivalry. The excellent photographs of yachts in motion which are now so common, contain endless and most authentic information about all kinds of minor waves and ripples. A collection of them is even better than nature itself, so far as form only is concerned, for no memory can retain the natural form with any approach to photographic accuracy. Painters make constant use of these invaluable memoranda, and by their help, and the education they give to the eye in preparing it to see nature itself, a greatly increased veracity in the drawing of water has penetrated even our current newspaper illustrations."

One can not close even so incomplete a review as this of the first half-century of photography without a reference to the position it holds with regard to art. Though it would require a long essay to deal with the subject as it merits treatment, it is important to make certain confessions of blighted hopes, and at the same time to look with tempered enthusiasm into the future. As an aid to science, as a recorder, as a duplicator, photography has helped advance civilization. Of itself it has failed to occupy the place it may yet hold as a means for expressing original thought of a fine order. With its recognized qualities and in the hands of a thoroughly trained worker perfectly familiar with the laws of chemistry and optics, and with artistic feeling and training, it may be placed on a plane where its beauties will force from all acknowledgment that it has powers which rank it as one of the finest of the graphic arts.

II.—THE EXPERIMENTAL RESEARCHES ON RAPID PHOTOGRAPHY BY MEANS OF THE KINETOGRAPH AND KINETOSCOPE, ETC.

To our Edison, in the year 1887, the notion presented itself that it was possible to devise an instrument which should do for the eye what the inimitable phonograph does for the ear, and that by a combination of the two, all motion and sound could be recorded and reproduced simultaneously. This idea, the germ of which came from the little toy called the zoetrope, and the former combined work of Maybridge, Marie and others has now been accomplished, so that

every change of facial expression and any other visible movement can be recorded and reproduced life size. The kinetoscope and kinetograph of to-day's construction is only a small model illustrating the future possibilities and its present stage of progress. With each succeeding month new changes are brought into view. It can already be forecasted from what has been done, that in a very short time these works of Edison, Dickson, Maybridge, Marie and others who will enter in this field of investigation will be crowned with successes heretofore unknown. These already explored fields bring us to recognize the known and future contingencies of being able to reproduce the many thousands of varieties of motions and expressions known to us in medicine, either as physiologic or as symptomologic in a variety of diseases. Its usefulness does not stop here by any means. The arts in all their branches claim its services also.

The synchronous attachment of rapid photography with the phonograph was one of the early thoughts of this inventor, in order to record and give back impressions to the eye as well as to the ear. The comprehensive term for this invention is the kinetophonograph. The dual talking machine is the phono-kinetograph and the reproducing-machine the phono-kinetoscope, in contra-distinction to the kinetograph and the kinetoscope, which relate respectively to the taking and reproducing of movable but soundless objects. The initial experiments took the form of microscopic pin-point photographs, placed on a cylindrical shell corresponding in size to the ordinary phonograph cylinder. These two cylinders were then placed side by side on a shaft, and the sound record was taken as near as posible synchronously with the photographic image impressed on the sensitive surface of the shell. The photographic portion of the undertaking was seriously hampered by the defects of the materials at hand, which, however excellent in themselves, offered no substance sufficiently sensitive. How to secure clear-cut outlines, or indeed any outlines at all, together with phenomenal speed, was the problem before him which puzzled. The Daguerre, albumin and kindred processes met the first requirements, but failed when subjected to the test of speed. These methods were therefore regretfully abandoned, a certain precipitate of knowledge being retained, and a bold leap was made to the Maddox gelatin bromid of silver emulsion, with which the cylinders were coated. This process gave rise to a new and serious difficulty. The bromid of silver haloids, held in suspension with the emulsion, showed themselves in an exaggerated coarseness when it became a question of enlarging the pin-point photographs to the dignity of one-eighth of an inch, projecting them upon a screen, or viewing them through a binocular microscope. Each accession of size augmented the difficulty, and it was resolved to abandon that line of experiment and to revolutionize the whole nature of the proceedings by discarding these small photographs, and substituting a series of very much larger impressions affixed to the outer edge of a swiftly rotating wheel, or disk, and supplied with a number of pins, so arranged as to project under the center of each picture. On the rear of the disk, upon a stand, was placed a Geissler tube, connected with an induction coil, the primary wire of which, operated by the pins, produced a rupture of the primary current, which in its turn, through the medium of the secondary current, lighted up the Geissler tube at the precise moment when a picture crossed its range of view. This electric discharge was performed in such an inappreciable fraction of time, the succession of pictures was so rapid, and the whole mechanism so nearly perfect, that the goal of the inventor seemed almost reached.

(To be continued.)

MEDICAL PRACTICE ACTS.

PRACTICE OF MEDICINE IN RHODE ISLAND.

A law was passed in Rhode Island in 1895 making it the duty of each town and city clerk to keep a "Medical Register," one full page thereof to be set apart for the registration of each physician in his town or city. When any physician shall die or remove from the city or town, the clerk is to make a note of same at the bottom of the page. On the first day of January in each year he is to transmit to the State board of health a duly certified list of the registered physicians. His fee for registration is fifty cents. Following this, it is made unlawful for any person to practice medicine or surgery in any of its branches, within the limits of the State, who has not exhibited and registered in the city or town clerk's office of the city or town in which he or she resides, his or her authority for so practicing medicine, as prescribed, together with his or her age, address, place of birth and the school or system of medicine to which he or she proposes to belong; and the person so registering shall subscribe and verify by oath, before such clerk, an affidavit containing such facts, which if willfully false, shall subject the affiant to conviction and punishment for perjury. Authority to practice medicine under this law shall be a certificate from the State board of health. The board is, upon application, to issue a certificate to any reputable physician practicing or who desires to begin the practice of medicine or surgery in the State, who possesses any of the following qualifications: 1. A diploma from a reputable and legally chartered medical college, endorsed as such by the State board of health; 2. Satisfactory evidence from the person claiming the same that such person was reputably and honorably engaged in the practice of medicine or surgery in the State prior to Janurary 1, 1892. Any person not qualified as so provided, before practicing shall present himself before the State board of health and submit himself to such examination as the board may require. The board shall examine any person presenting himself and if the examination is satisfactory shall issue its certificate. Fee for examination is $10. Applicants may present their credentials by mail or by proxy. Not more than $2 shall be charged for any certificate. Nothing in this law shall be so construed as to authorize any itinerant doctor to register or to practice medicine in any part of the State. The board may also refuse to issue its certificate to any individual guilty of grossly unprofessional conduct of a character likely to deceive or defraud the public, and it may after due notice and hearing revoke certificates for like cause, appeal in such cases being given to the supreme court. Nothing in this law shall be so construed as to discriminate against any particular school or system of medicine, or to prohibit women from practicing midwifery, or to prohibit gratuitous services in case of emergency; nor shall it apply to commissioned

surgeons of the United States army, navy or marine hospital service, or to legally qualified physicians of another State, called to see a particular case, but who do not open an office or appoint any place in the State where they may meet patients or receive calls. Any person living in the State, or any person coming into the State who shall practice or attempt to practice medicine or surgery in any of its branches, or who shall perform or attempt to perform any surgical operation for or upon any person within the limits of the State for reward of compensation, in violation of this law, shall, upon conviction thereof, be fined $50 and upon each and every subsequent conviction shall be fined $100 and imprisoned thirty days, or either or both; and in no case, where any provision of this law has been violated, shall the person violating it be entitled to receive compensation for services rendered. To open an office for such purpose, or to announce to the public in any other way a readiness to practice medicine or surgery in the State, shall be to engage in the practice of medicine within the meaning of this law.

DENTAL LAW OF NEVADA.

An act to insure the better education of practitioners of dental surgery, and to regulate the practice of dentistry in the State of Nevada, was passed in 1895. It creates a board of examiners, to consist of five practicing dentists, to be appointed by the governor from a list of candidates furnished by the Nevada State Dental Society. Regular term of office is four years. After making special provision for persons already engaged in the practice of dentistry in the State, it is enacted that any and all persons who shall so desire may appear before said board, at any of its regular meetings, and be examined with reference to their knowledge and skill in dental surgery, and if the examination of any such person or persons shall prove satisfactory to said board, it shall issue to them a certificate to that effect. The board shall also indorse as satisfactory, diplomas from any reputable dental college, when satisfied of the character of such institution, upon the holder of such diploma furnishing evidence satisfactory to the board of his or her right to the same. All certificates issued by the board shall be signed by its officers, and such certificates shall be prima facie evidence of the right of the holder to practice dentistry in the State of Nevada. The fee for examination is $10. Any person who shall violate any of the provisions of this act shall, upon conviction, be fined not less than $50, nor more than $200, or be confined six months in the county jail. All fines or penalties recovered accrue to the common school fund of the county. Any person who shall knowingly and falsely claim or pretend to have or hold a certificate of license, diploma or degree, granted by any society, or who shall falsely, and with intent to deceive the public, claim or pretend to be a graduate from any incorporated dental college, not being such graduate, shall also be liable to the above penalty. Any person receiving a certificate of qualification from the board must have it registered with the county clerk of any county or counties in which he may desire to engage in the practice of dentistry. Failure, neglect or refusal to have a certificate so registered, for period of six months, works a forfeiture of the certificate, and no certificate, when once forfeited, shall be restored, except upon the payment to the board of examiners of $25 as a penalty.

MAINE MEDICAL ACT.

A law was passed in Maine in 1895 to regulate the practice of medicine and surgery within that State. It provides that the governor, with the advice and consent of the council, shall appoint six persons, residents of the State, who shall be graduates of a legally chartered medical college or university having the power to confer degrees in medicine, and who shall have been actively employed in the practice of their profession for a period of five years, who shall constitute a board of registration of medicine. Six years is the full term of office. Regular meetings are to be held in March, July and November of each year. On and after January 1, 1896, the board shall examine all applicants for registration as licensed physicians or surgeons. Each applicant must give satisfactory proof of being twenty-one years of age and of having good moral character, and possessing a reasonable amount of average knowledge in the branches of science he desires to practice in. Examinations shall be, in whole or in part, in writing and shall be of an elementary and practical character. They shall embrace the general subjects of anatomy, physiology, pathology, materia medica, therapeutics, surgery, the principles and practice of medicine, obstetrics, or such branches applicant to possess. On and after the above date, thereof as the board may deem necessary for the it shall be illegal for any person not duly registered by this board to practice medicine or surgery, or any branch thereof for gain or hire within the state. Whoever not being registered as required shall so practice or shall advertise or hold himself out to the public as a physician or surgeon in the state, who appends to his name the letters "M.D.," or who uses the title of a doctor or physician meaning thereby a doctor of medicine, shall be punished by a fine of not less than $100 nor more than $500 for each offense, or by imprisonment in jail for three months or both. This act shall not apply to the commissioned officers of the United States army, navy or marine hospital service, or to a physician or surgeon who is called from another State to treat a particular case and who does not otherwise practice in Maine, nor to prohibit gratuitous service or the rendering of assistance in emergency cases, nor to medical students who prescribe or operate under the direction of some registered physician or physicians, nor to midwives who lay no claim to the title of physician or doctor. Neither shall this act apply to persons practicing hypnotism, magnetic healing, mind cure, massage, Christian science, or any other method of healing if no poisonous or dangerous drugs are employed nor surgical operations performed; provided, such persons do not violate any of the provisions of this act in relation to the use of "M.D.," or the title of doctor or physician. The board after a conviction before a proper court, for crime in the course of professional business, and after hearing, may by unanimous vote, revoke any certificate issued by them and cancel the registration of the person to whom it was issued. It has also power to suspend or revoke any certificate by unanimous vote, in any case where same certificate has been wrongfully obtained or any fraud connected with the registration. It shall be the duty of the board, its members or agents to investigate all complaints regarding non-compliance with or violation of the provisions of this act and to bring all such cases to the notice of the proper prosecuting officers.

TO REPORT BIRTHS IN RHODE ISLAND.

A law passed in Rhode Island in 1895 requiring physicians and midwives, on or before the fifth day of each month, to report to the clerk of each city or town a correct list of all children born therein during the month next preceding, at whose birth they were present, stating the date and place of each birth, the name of the child (if it has any), the sex and color of the child, the name, place of birth and residence of the parents, and the occupation of the father. A fee of twenty-five cents for each birth so reported is to be paid by the city or town in which the report is made.

PRACTICE OF MEDICINE IN DELAWARE.

Realizing that "the safety of the public may be endangered by incompetent physicians and surgeons, and due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons shall be allowed to practice their profession," a new law was passed in Delaware in 1895, regulating the practice of medicine and surgery in that State. It provides that there shall be established a Medical Council of Delaware, consisting of the Chief Justice of the State and of the Presidents of the two State Boards of Medical Examiners provided for in the act. This council shall issue certificates for license to practice medicine and surgery to such applicants as have presented such diplomas and successfully passed such examinations as are required. The two boards of medical examiners are to be separate, one representing "The President and Fellows of the Medical Society of Delaware," and the other "The Homeopathic Medical Society of Delaware State and Peninsula." Each board shall consist of five members, whose regular term of office is two years, their appointment to be made by the governor from the members of said societies. Each board, not less than one week prior to each examination, shall submit to the Medical Council questions for thorough examinations in anatomy, physiology, hygiene, chemistry, surgery, obstetrics, diagnosis, therapeutics, practice of medicine and materia medica. The Medical Council shall select the questions for such examinations from the lists of questions submitted by the Board of Medical Examiners of the candidate's election; and should there be candidates for examination of any other school than the two designated in this act, they shall be examined by the council and some reputable practitioner in the State of such school, by the council to be selected, upon questions to be selected from standard text books on the above subjects as taught by the school selected by the candidate. The examinations are to be conducted in writing. They may be conducted by a committee duly authorized by said boards. The applicant must pay a fee of $10 and furnish satisfactory proof that he is more than 21 years of age, is of good moral character, has obtained a competent common school education and has received a diploma conferring the degree of medicine from some legally incorporated medical college. Applicants who have received their degree after the passage of this act must have pursued the study of medicine for at least four years, including three regular courses of lectures in different years, in some legally incorporated medical college or colleges prior to the granting of said diploma. Such proof, if required, shall be made upon affidavit. The clerk of the peace of any of the counties of the State shall issue a license signed by the governor and countersigned by the secretary of State and sealed with the seal of his office, certifying that such person is authorized to practice medicine and surgery in the State, conformable to the laws thereof, to any person who shall present to him a certificate of the Medical Council. It was also provided that such a license should be issued to any serson who had been qualified in one of the counties of the State prior to the passage of this act. Moreover, its provisions are not to apply to physicians who are practitioners of any other State coming into Delaware in consultation with any lawful practitioner of medicine and surgery in the latter State. Nor does the act in any way apply to dentists or dental surgery. And nothing in it is in any way to interfere with the operation of Chapter 117, Volume 13, Laws of Delaware, relating to revenue—otherwise all prior laws on this subject are repealed.

SOCIETY PROCEEDINGS

Chicago Pathological Society.

Regular Meeting, Feb. 10, 1895.

The President, Dr. Weller Van Hook in the Chair.

Dr. M. L. Harris read a paper on Colloid Goitre, and exhibited specimens of same. (See p. 663.)

Dr. D. N. Eisendrath read an abstract of a paper entitled

SPONTANEOUS DISLOCATIONS OF THE HIP-JOINT OCCURRING IN THE COURSE OF ACUTE INFECTIOUS DISEASES.

Traumatic dislocations of the hip are of such relative frequency that they interest the surgeon but little more than dislocations of the other joints. Not so with spontaneous luxation of the hip. But few cases of this kind have been reported. They were first observed, in 1853, by Lorinser, who reported a dislocation of the hip occurring spontaneously during typhoid fever. Roser, in 1857, called attention to the fact that this condition was known to Hippocrates, who ascribed it to hydrops of the joint. Numerous post-mortems made during the present century confirmed this theory. Parise attempted to reproduce it by injecting fluid into the joint, and found that the head moved away from the acetabulum. The capsule in order to stretch was obliged to assume a spherical shape, pulling the head with it. The only modern writer who disagrees with this theory is Verneuil, who believes that it is produced through muscular action. He claims that there is a paralysis of some of the muscles about the hip-joint and that their antagonists pull the head out of the acetabulum. This theory has no other supporters. Güterbock reported four cases, in 1874, occurring during the course of typhoid fever. These took place suddenly without any trauma, the only symptom of a joint affection having been pain in both hips. Verneuil, in 1883, reported six cases occurring during acute articular rheumatism. Delens added two to the list of spontaneous luxation of the hip, these occurring during typhoid. Sainton also reported a number of cases in 1892, and Champenois recently collected and published ten cases, all taking place during convalescence from typhoid fever. The right hip was most frequently affected. Kirmisson reduced a dislocation which occurred during acute articular rheumatism on the twelfth day in a girl 18 years of age, and also published a case in which the dislocation occurred during scarlatina. Phocas, in 1894, reported a typical case in which a dislocation of the hip occurred during convalescence from typhoid. The writer, in addition to the case reported, saw a double dislocation of the hip which had taken place spontaneously during scarlatina, at the clinic of Professor Lorenz in Vienna. The case observed was one of a girl 12 years old, who was admitted to the service of Dr. Sick in the Hamburg Hospital. During an attack of influenza a spontaneous backward dislocation had occurred. Six months after this happened

she was operated upon by Dr. Sick, who found the acetabulum filled by inflammatory tissue, the head of the femur and the acetabulum exactly corresponding in size. The capsule was almost completely destroyed. There was no osseous focus. The head was replaced after the acetabulum had been curetted to remove the inflammatory tissue which filled it. Recovery took place very slowly, the wound having suppurated. The occurrence of such a spontaneous dislocation during an attack of influenza would seem possible, since during this disease exudation into joints takes place, as Franke has recently reported. This is the first case in which such a dislocation has been observed during influenza, the other diseases in which it has occurred being scarlatina, typhoid and acute articular rheumatism.

DISCUSSION.

DR. M. L. HARRIS—The question to be raised in most of these cases is whether we have to deal with an arthritis, or with a case of osteomyelitis. In the first place, these cases almost invariably occur during the developmental period, before complete growth is reached. The tendency of micro örganisms to localize themselves and develop in growing bone is well known. These cases of dislocation of the hip-joint occur more frequently in certain infectious diseases than in others. For instance, typhoid fever is a disease in which dislocation of this joint is apt to occur, and we know the typhoid bacillus in this disease can always be found in bony tissue. Other organisms are not so liable to locate themselves in bone, and in the diseases produced by them we do not have dislocations so often. In scarlet fever we frequently have effusion into the joint, but dislocation of it is comparative rare. Effusion into joints occurs in other infectious diseases, as in measles, mumps, dysentery and variola, but dislocations in those diseases, however, are very rare, showing that there must be something besides a synovitis to produce the dislocation. Crepitus has been observed, as in the case mentioned by Dr. Eisendrath, and when the joint was opened there was found erosion of the acetabulum, showing that there was osteomyelitis present. The great frequency with which the hip-joint is affected is another point in favor of osteomyelitis. As is well-known, the femur is the most common bone to be affected by osteomyelitis. In ordinary osteomyelitis from pyogenic infection the upper end of the femur and pelvic bone or hipjoint are affected many times to once of any other joint. To give an illustration, in twenty-two cases, by Müller, the hip-joint alone was affected sixteen times, the remaining six cases being distributed, showing the great frequency with which the hip is involved. Here it was found that the acetabulum was the part primarily affected in 25 per cent. of the cases. Another thing which points to the fact that these cases are probably osteomyelitic is the failure to reduce the dislocations and keep them so. In dislocations which follow typhiod fever reduction and retention have been very seldom accomplished. If we have a dislocation of an intact bone there is no reason why the reduced dislocation should not be retained. Ankylosis occurs quickly after these dislocations, much quicker than it does after traumatic dislocations, showing again disease of the osseous tissue. So I think the majority of these cases are not, strictly speaking, cases of synovitis but of the osteomyelitis, the infection extending secondarily to the synovial membrane.

DR. EISENDRATH (closing)—I believe in a certain proportion of cases that the dislocation is due to a primary osteomyelitis rather than a primary synovitis. I do not know whether the cause of suppuration in this case was an infection from without, or from some osteomyelitic focus in the head of the bone, or whether it was due to the scarlatina through which the patient had passed four weeks previously. But there is one case recorded in which an abscess appeared at the popliteal space, that might possibly have been construed as an abscess which had come from a primary osteomyelitic focus. There are undoubtedly cases where dislocation occurs as in articular rheumatism and scarlatina, where we have associated with it a primary synovtis and not osteomyelitis. In the case in which it occurred after influenza we could find no foci at the time. The true acetabulum was covered with inflammatory tissue; but the cartilage itself was eroded in a few places. There were no osseous lesions to be found.

EXHIBITION OF SPECIMENS.

DR. E. J. SENN exhibited specimens of *Pyosalpinx*, which were of particular interest because of their size and marked contortions. The specimen was from a woman 29 years of age, who had been married ten years, and had not given birth to any children. The trouble had existed for six years. The symptoms were those ordinarily present in such cases, with marked pains in the lumbar region of a decidedly intermittent character. There was a constant discharge of pus from the cervix uteri.

DR. WILLIAM HESSERT asked if the paroxysmal pains were followed by purulent discharge from the uterus.

DR. SENN—No; the discharge was constant.

DR. EMIL RIES called attention to the value of the specimens as examples of the contortions of the tubes as described by Freund, which he thought to be due to the rudimentary development of the tubes, the embryonal or infantile characteristics being preserved.

DR. JAMES B. HERRICK presented specimens from a case of

TYPHOID FEVER WITH FATAL INTESTINAL HEMORRHAGE COMPLICATED BY ECTOPIC GESTATION.

The specimens were obtained from the body of a woman who had come to the County Hospital, Jan. 25, 1896, dying ten days later of acute anemia following intestinal hemorrhage. The anatomical diagnosis (Drs. L. Hektoen and F. Tice) was as follows:

1. Accidental Findings: Adherent pleuritis; healed pulmonary tuberculosis; adherent pericarditis; chronic endarteritis and valvular endocarditis; chronic nephritis; ureteral anomaly.

2. Typhoid fever: Splenic tumor, enlarged mesenteric glands, ulcers in ileum and colon, blood in cavity of intestines, typhoid bacilli in heart's blood, in spleen and kidney.

3. Ectopic Gestation: Uterus slightly enlarged, left tube normal, right tube to be traced for one-half its length; in median line of uterus and firmly united by adhesive bands to the uterus and to the neighboring intestinal coils, a gestational sac the size of a large cocoanut and containing a mummified fetus, placental tissue and an old blood clot. Attention was called to two facts of interest in connection with the case: 1. The rarity of the combination of typhoid fever and ectopic pregnancy. A somewhat extended, though not yet completed, search through the medical indices had failed to show a previously recorded case of this kind. The case seemed to be unique. 2. The difficulty presented in diagnosis. The woman had given a history of an abortion at three months induced by the ingestion of drugs. Following the supposed abortion she had flowed for quite a number of days. Then there had developed a chill, headache, malaise, anorexia, fever. We were in the midst of an epidemic of typhoid. The question naturally arose whether the case was one of typhoid fever or of puerperal septicemia, the globular mass easily felt above the symphysis being taken for an enlarged uterus perhaps containing a dead fetus or undischarged secundines. The absence of local tenderness, of uterine discharge and of fetor, and the resemblance of the general symptoms to those of typhoid, lead to a policy of expectancy. This was rewarded in a few days by the appearance of rose-spots, enlarged spleen and a fatal intestinal hemorrhage, making clear the diagnosis of typhoid fever. Even had the existence of extra-uterine pregnancy been made out during life, the question of infection through the uterus, or the infection

of the contents of the sac, would have arisen and would have rendered an early diagnosis a matter of extreme difficulty. A closer scrutiny of the history of the case in the light of the post-mortem findings, lead one to think that there had been a right tubal pregnancy with rupture about seven weeks prior to the patient's entrance into the hospital. For there is a somewhat indefinite account of abdominal pain at that time with some collapse or syncope.

Dr. F. C. Schaefer presented a *Uterus with large Fibroid Tumor*, which had been removed by abdominal hysterectomy. The tumor was lobulated, weighing eight pounds. One lobe had filled the cul-de-sac of Douglas. The uterine canal was three inches deep. Patient did nicely after the operation.

Dr. Emil Ries exhibited a *Vermiform Appendix with a Fecal Stone* in its lumen, which had been removed by operation. The symptoms were peculiar in that inability to urinate was present from the onset. The diagnosis was made by the detection of swelling about the appendix by rectal examination.

Dr. Weller Van Hook referred to a similar case in which diagnosis of lead colic and renal calculus were successively made. The rectal examination finally cleared up the diagnosis.

SELECTIONS.

Glaucomatous Atrophy of Optic Discs in Syphilitic Patients Simulating Tabes.—Dr. Galezowski has addressed the Academy of Medicine of Paris on the above subject, as is reported in *Annales d'Oculistique*. Certain varieties of glaucomatous atrophy of the discs are frequently confused with ataxic atrophies. The following signs may help to avoid this error. If the affection is glaucomatous, then: 1. The disc is white, more especially on the external side. 2. The central veins of the optic nerve are diminished in size at their point of emergence, but after crossing with the central arteries, most frequently near the edge of the disc, they become larger. 3. Sub-cutaneous pulsation of the central artery is seen. 4. The pupil contracts to light, but it is enlarged and irregular. 5. The visual field is narrowed in the internal of supero-internal portion, while it remains normal at least for a long time in the external and inferior portion. 6. Dyschromatopsia does not exist at the beginning of the disease, and is hardly appreciable later when the opaque zone of the internal visual field has reached the central point of vision. 7. The patella reflexes are preserved and there are no shooting pains. The disease is of gouty, arthritic, or syphilitic origin. Repeated anterior sclerotomy and general treatment appropriate to the diathesis (gout, syphilis) considerably improve the atrophy of the disc and sometimes even arrest it, as I have found in five out of seven cases which have come under my observation.

Missed Labor.—The *British Medical Journal* quotes from an article by Stahl, in *Der Frauenarzt*, the history of a case in which he feels sure that labor was missed, and where he afterward induced a kind of secondary "premature labor," as he terms it, or, in more usual terms, he delivered a fetus which the uterus refused to expel. The patient was intelligent. Her pelvis was contracted by prominence of the sacrum. Three labors had been normal, and only lasted some two hours each; a fourth had been more lingering, and a very big child was delivered at term. Labor pains, very distinct, set in at term at the fifth pregnancy. For three hours the uterine contractions were strong and regular; then the intervals grew longer and the pains weaker until they ceased. When 302 days had elapsed after the last period, Stahl found the patient inconvenienced by the great size of the abdomen, so he turned and delivered a very well-developed fetus, which was alive at the beginning of the delivery. The prominent sacrum gave great trouble; the perineum was badly torn, owing to the great size of the fetal head; ossification of the cranial bones had advanced very far, and made the parts incompressible. The fetus weighed twelve pounds eight ounces, the placenta and membranes two pounds. The measurements of the head were: Circumference, 16 inches; occipito-frontal diameter, 5.8 inches; biparietal, 5.2 inches; bitemporal, 4.6 inches. The perineum and the rent, nearly an inch long, in the rectum were sewn up at once, and the mother made a good recovery. No uterine disease or rectal trouble ensued.

Morphologic Transformations in the White Corpuscles in the Blood Vessels.—Marquevitch has been studying the leucocytes in the active circulation during a series of interesting experiments. He prepared the animals (dogs) by the Pawlow method: Closing the long circuit by compressing the carotid and art. subclavia (artificial respiration, on account of the interruption of the cerebral circulation) and also compression of the rising part of the aorta, with a direct communication between the right auricle and the left ventricle, by means of a glass tube between the art. subclavia dextra and the vena subclavia or jugularis sinistra. Ligature of the left vena subclavia below the entrance of the ductus thoracicus, with occasional ligature of vena cava inferior. In this way the blood practically made the short circuit only, and samples taken out of it at intervals of five, fifteen and thirty minutes, and one and two hours, were examined. The lymphocytes, small and large, were all counted with the polynuclear leucocytes. Marquevitch considers them all, with Ouskow, merely different forms of the same corpuscle: The "young," the "mature" and the "old." Counting showed that the young ones decreased in number, the mature ones increased slightly, although a part of them were changing simultaneously into polynuclear cells. The effect of artificial respiration with pure oxygen, and also of injections of tuberculin was to hasten the transformation of the mature cells into polynuclear ones, but warming the animal produced no appreciable effect. Chloroform arrested the transformation and diminished the number of leucocytes found, which Marquevitch ascribes to the accumulation of them in the capillaries of the lungs in consequence of the positive "chemo-tactic" effect of the chloroform.—*Centralblatt f. Phys.*, February 22.

Primary Sarcoma of the Pleura. It is a serious matter to announce the diagnosis of this disease, and yet absolute certainty is difficult to acquire. Guinea pigs inoculated with the fluid withdrawn from the pleura will determine whether it is a case of tuberculous pleurisy, which is often terminated by recovery. Another point of assistance in diagnosis is the absence of febrile conditions; sometimes there is hypothermia. The almost immediate reproduction of the effusion after the puncture is another characteristic symptom, as also the compression and the absence of marked modifications after puncture. As a consequence of the pressure in the thorax, some cases present a turgescence of the veins in the neck, arm and face, or an edematous appearance of that half of the thorax. Others experience a difficulty in swallowing, and others show a dilatation of the pupil on that side. The pain is also characteristic, diffused throughout the thorax, with increase on local pressure, and extending into the shoulder and arm. It is besides, more or less continuous. Palpation is also a most important guide in diagnosing, as several cases on record presented marked protuberances in the thoracic walls. The fluid withdrawn varies so much in different cases that it is not so much of an assistance as might be expected. The above points are culled from a long and analytic treatise on this subject in the *Progrès Médical*, January 4 and 18.

Latent Contagiousness in Certain Strictures of the Urethra. There are some physicians even now who still query whether gleet, or military gout as the French call it, is contagious. They should read an able article on this subject in the *Revue clin. d'And. et de Gyn.*, November, 1895, by Hamonic, and be convinced. He not only proves that a defined case is contagious,

but that many an unsuspected case is also. When an old case comes to consult us as to whether he can marry, a superficial examination is not enough; the urethra should be examined again and again, especially on waking in the morning, to discover the slightest trace of purulence, and a careful search should be made for any evidence of a stricture which may contain the pathologic germ latent in some form, and it should be scrupulously removed. By these precautions we will prevent the sad consequences to the young wife which occur again and again in practice, and which we are too apt to ascribe to the "changed conditions," fatigue, etc., instead of seeking their source in the latent poison in the husband. Hamonic describes a couple of most convincing cases in which the husband believed himself cured, but after a year the wife presents a typical purulent endometritis and secondary ovaro-salpingitis, and examination of the husband discloses a series of urethral strictures, with the presence of gonococci, which are also found in the lesions of the wife. In these cases the husband had been free from disease to all appearance for five years preceding his marriage, which demonstrates the necessity of the most rigid investigation before the physician approves of matrimony in such a case.

The Bicycle in Therapeutics.—Physicians are complaining that it is with the bicycle now as in the early days of electro-therapeutics, they are unable to order it with any degree of certainty, as there are as yet no terms of scientific measurement of speed, effort, resistance of the wind, etc. Moderation is the warning sounded by every physician who mentions the bicycle, and Villaret states that he would never venture to recommend it to an elderly person, who did not know how to ride it, on account of the danger from falls. A stationary bicycle for home exercise is now on the market. Heart troubles contraindicate the use of the machine and walking is much to be preferred in cases of fatty degeneration. But all agree that for a sound person the wheel is a fine recreation and exercise. Some firms supply their employés with wheels. The word "bike" can be considered a part of our language now, as the Queen has conferred the title of "sergeant bikeman" on the officer who has charge of the royal bicycles, and as the *Youth's Companion* remarks: "If Her Majesty is not an authority for the Queen's English, who is?" In Vienna no one is allowed on the public streets without a license, to obtain which he must pass an examination, riding between boards laid on the floor, without touching their edges, and dismounting at a word either right, left or backward.

Indications for Curettement of the Uterus, and Method of Procedure.—Where the placenta is retained, the first thing to be done is to arrest the hemorrhage and prevent infection. Sublimate in 1-1000 solution for the general irrigation, is the best for ordinary use, and if the hemorrhage persists, a 1-4000 solution can be used for an intrauterine injection, very hot, followed by the insertion of a dossil, first boiled in a solution of carbonate of soda. The inconveniences of this are counterbalanced by its effect, as its removal next day is often followed by expulsion of the placenta. Where these means are unsuccessful, curettement is indicated, although some, like Pinard, prefer continuous intrauterine irrigation. But this is almost impossible except in the hospital, or home of wealth. The placenta might be removed with the fingers, but it is often more difficult to insert the finger than the curette, which is more thorough in its work. Simple retention requires merely antiseptic precautionary treatment, but in retention with hemorrhage after abortion, and in cases where the fetus has putrefied, and portions are still left, and in all cases of septicemia with fever, chill and pains the curette is urgently called for, if the symptoms persist twenty-four hours in spite of the intrauterine injections. There must be on hand a Sims' speculum, one or two bullet and other forceps, an intrauterine catheter, a sound for the bladder, and curettes of several sizes, styles and scoops, Volkmann's and Recamier's preferred, scissors, razor, and everything carefully sterilized. As the operation is neither long nor painful, it is not necessary to resort to an anesthetic although ether can be given. The patient in the obstetric position, at right angles to the edge of the bed, her limbs held by assistants, the pelvis elevated, the vulva is shaved, washed and scrubbed with soap suds, the bladder is emptied and a vaginal injection made with an antiseptic solution. The neck is held with bullet forceps, and if not sufficiently dilated, this is completed with a Hegar bougie. The curette is then introduced and the entire inner surface of the uterus scraped, first the anterior wall, and then withdrawn to remove the detritus, after which it is reintroduced and the posterior wall scraped in the same way. A smaller curette is then taken and the whole surface gone over, until nothing but clots can be found anywhere in the uterus. The neck is then treated in the same way, after which an intrauterine injection is made. Then with long-bladed forceps a wad of cotton dipped in a 5 per cent. solution of phenic acid or 10 per cent. of chlorid of zinc, is used to wipe out the whole inner surface of the uterus. The uterus is closed with a tampon of iodoform gauze, with a drain; another antiseptic tampon is inserted in the vagina; the vulva is covered with a pad of cotton, and the patient replaced in bed. —*Gaz. Méd. de Liége*, March 12.

The Health of the German Army.—In the Budget Committee of the Reichstag, Staff-Surgeon-General Werner a few days ago laid before the members some very interesting statistics concerning the decline of disease in the German army. From these it appears that since the year 1868—counting up to 1894—the number of cases of all descriptions has gone down from 1,496 per 1,000 to 867 per 1,000, which means a reduction of 42 per cent. The death rate in the army was 6.9 per 1,000 in 1868; by 1894–95 it had gone down to 2.4 per 1,000, a reduction of 65 per cent., which means that about 2,200 more men are preserved to life every year. In the thirties of this century the death rate in the Prussian army was higher than the death rate of the male population between 20 and 30 years old (the numbers were respectively about 14 per 1,000 for the army and about 10 per 1,000 for the general population). The case is now reversed, for in 1893 the death rate of the male population of from 20 to 30 years old in Prussia was 6.38 per 1,000, and the death rate in the German army in the year 1892–93 was 3.0 per 1,000. This remarkable advance is due to modern hygiene, and the statistics show that above all it is the epidemics that have lost ground. Smallpox is now exceedingly rare, and has caused only two deaths since 1873. Dysentery has been reduced from 6.8 per 1,000 in 1873–74 to 0.39 per 1,000 in 1893–94; that is a reduction of 94 per cent. As for typhoid, the prevalence of which is considered to a certain extent the measure of the healthy condition of an army, in 1868 the number of cases was 33.8 per 1,000, and in 1893–94 only 2.4 per 1,000; the death rate from typhoid was 2.2 per 1,000 in 1868, and in 1893–94 it had gone down to 0.21 per 1,000, a reduction of about 90 per cent. Malaria showed 27.6 cases per 1,000 in 1868, and in 1869 even 54.5 per 1,000; in 1893–94 only 0.81 per 1,000. Contagious eye inflammation has gone down from 7.0 per 1,000 to 1.5 per 1,000 in a similar period of time. The campaign of 1870–71 was the first exception to the time-honored rule that more fighters are carried off by disease than by the enemy. Of the German army 26,562 men (33.7 per 1,000 of the total number) fell in battle, and only 14,648 (18.6 per 1,000) by disease. The Germans were not without typhoid and dysentery epidemics, but the most devastating war epidemic, smallpox, scarcely affected them. There were not 300 deaths from smallpox on the German side during the war, while in the French lines there were 23,400 deaths from smallpox. There can be no doubt that the immunity of the Germans was due to the vaccination so strictly enforced in the German armies during thirty previous years of peace. Dr. Werner further stated during the war the French prisoners of war brought smallpox into Germany, and that the epidemic spread and carried off a greater number than the campaign itself. Some disease statistics from the Russo-Turkish war of 1877–78 were also given showing that in this campaign the old rule held good, as the number of deaths caused by disease was far greater than the number of deaths caused by the enemy.—*British Medical Journal*, February 29.

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SATURDAY, APRIL 4, 1896.

THE POWER AND FORCE OF A UNITED PROFESSION.

Every intelligent and reflecting physician must recognize the power and force of the medical profession of this country when united in an effort to accomplish such legislation as may be deemed conducive to public welfare and to the advancement of scientific medicine. This has been so often demonstrated that it must be accepted as a settled conviction. But conviction of such a fact does not carry with it the accomplishment of a result without united and concerted effort. Therein lies the failure of attempts to secure favorable legislation in many instances. Even worse, the lack of interest and united effort has quite frequently permitted adverse legislation that has trammeled the progress and limited the beneficence of a life-saving science.

There are now pending in Congress two bills, which if enacted into laws will be limited in their operation to the territorial area of the District of Columbia, with a population of two hundred and seventy thousand people, but the significance of such legislation by the congress of the United States, the highest tribunal of legislation in the country, will be far reaching.

The passage of the bill relating to the testimony of physicians in the courts of law will establish the principle of privileged communications to physicians, and add such force to it that every State in the union will probably accept by statute law the justice and wisdom of such protection of its citizens from the compulsory disclosure in open court of such confidential communication to physicians. The enactment of the pending bill by Congress would seem then to be the key-note of success in those States and Territories in which the liberty of privileged communications to physicians has not been extended to their citizens.

The other bill has for its object the prohibition of vivisection, and will, if passed, close the laboratories of the Surgeon General's Department of the Army; the Marine Hospital Service and the Bureau of Animal Industry of the Department of Agriculture, and all medical college physiologic laboratories in the District. Such will be its immediate effects, but its significance is so wide-spread in disastrous suggestion that the Humane Societies in every State, city and town throughout the land will seize it as the expression of popular judgment, and upon that basis will appeal to the State legislatures for similar statutory prohibition. Will the profession wait until the crisis comes? Will it rest supinely in fancied security until defeat and disaster are impending, or will it assert the prerogatives of scientific medicine, and by united effort enforce them in the interest of, and for the welfare of mankind, in that governors, legislative bodies, town councils and all others in authority may come to know that in preventive and remedial medicine truth and science must dominate fanaticism, whim, caprice, charlatanry and mercenary adventure.

IMPROVED SANITARY AND SOCIAL CONDITIONS OF THE SEMINOLES OF FLORIDA.

JACOB E. BRECHT, M.D., of Fort Myers, Florida, is superintendent of the Indians of that State, and is now engaged in securing by purchase lands for the individual ownership of his charges. An appropriation of $3,000 per annum given by the Federal Government for the Seminoles is applied to this purpose. Heretofore, these Indians have been homeless, so far as the ownership of land has been concerned. These Indians are a cleanly, healthful and thoroughly peaceful people. They are a truth-loving class, and in fact claim that before the white man came, they did not know how to lie, but since they taught them how, he once in a great while resorts to deception, though liars among them are held in utter contempt. Their women are the purest of the pure. A whole realm can not change them from the path of virtue. Lewdness is an unknown sin. They seldom commit crime, and their only punishment for it is ostracism. They are compelled upon pain of death to leave the village and must stay away a period of years. They usually hang around other villages, and if they once succeed in getting into the "green corn dance" their social position becomes reëstablished. Murder and wife-beating are the worst of the crimes. Wife-beating is not tolerated.

The Indians are becoming more prosperous every year. Some of them have a few thousand dollars saved up, and a few have houses of two stories. These houses are picturesque. Their roofs are of palmetto thatch. The house is of boards, usually supplied by

the Government saw mill. This mill is run in connection with an industrial school. The school is not largely attended, because of the prejudice among them against the Government. They are not increasing in population very rapidly, which fact is referable to physiologic and social causes. There has, however, been an appreciable increase. In 1859 there were but 112; now they are something over 500. The chief social reason for their slow propagation is the custom of countenancing no marriage of persons who have a drop of the same blood in their veins. This is sometimes hard on the girls. One leader has two beautiful daughters who can not get married because the eligible young men are almost all akin to them. Very often the custom causes strange alliances, and there has been a number of instances where young bucks of twenty have squaws of sixty. The reason for a lack of increase is the dearth of knowledge on the part of men and women of physiology and hygiene. The mothers, although intensely fond of their offspring, will allow them to stuff themselves with food and indigestible substances in the shape of sand, charcoal and clay. Many deaths occur during the first three years. "If a child lives to be five, you can't kill him with a lightwood knot." If the parents knew more of diet the race would rapidly increase, for a stronger, sounder people are not to be found on the earth.

Of the adjustment of their marital relations, DR. BRECHT says, "The wife is proud of the husband, and the husband considerate of the wife. He hoes in the field and hunts and fishes, while she attends to the household duties and tans the hides and cures the bird skins and plumes. The braves are splendid hunters. They know the habits of every fowl and animal, and can mimic their notes with absolute accuracy. They are not long shots, preferring to make sure of their game by creeping upon it. They can advance to within a few feet of deer. There are now three settlements of Indians: One at Miami, under Tommy Tiger Tail; another at Cow Creek, under Tallahassee, or Old Tony; and the third in the Big Cypress, under Dr. Tommy. Dr. Tommy is leader-in-chief of the tribe, and the others are sub-leaders. None of the three is a chief. In recent years, or since they have taken to peaceful vocations, there have been no chiefs.

They have a religion. They say that the white man's God is the same as their God. The Father they call "Fanshockohomachey," and the Son "Chockatomassee." They believe that there is a future state, but call death "the big sleep." They think that Christ's coming took place in Georgia, and that a great assemblage came to a mountain to hear Him. The mountain split in twain, and one people slid northward and the other southward. They do not pray, but, as they express it, think with God.

THE CASE OF MEDICAL INSPECTOR KERSHNER OF THE NAVY.

On March 19 this *cause célèbre* of the navy was brought to a close, so far as Executive action is concerned, by the promulgation of the fact that the President had approved the sentence of the court-martial in this officer's case.

As ten months have elapsed since the adjournment of the court (May, 1895), a brief reference to the circumstances may be necessary to acquaint the profession with the main facts of a trial that will take its place in the annals of naval jurisprudence as one of its most memorable occurrences. It is stated by the Washington correspondents of the public journals that the long delay in approving the sentence of the court was due to the desire of the President to thoroughly acquaint himself with the evidence and his reluctance to carry into effect so severe a penalty. The long service of Medical Inspector KERSHNER, who entered the navy in 1861 from the State of Maryland, his high professional standing, his distinguished war record and his nearly twenty years of duty afloat, made the charges almost incredible, and his friends and professional associates are still loath to believe that his offense was other than a technical violation of regulations and a subsequent unintentional error of judgment. DR. KERSHNER has always been a stanch outspoken upholder of the rights and dignities of the medical corps and his friends believe that his insistence on his prerogatives as the senior medical officer of the vessel to which he was attached, incurred for him the hostility of the line officers as far back as January, 1894, when he urged that the hospital on board the *New York* should be shifted from the objectionable site in the extreme bow of the vessel to a commodious, well ventilated location on the gun-deck as on board foreign men-of-war of the same type. Subsequent disagreements as to the proper care and transportation of patients, control of subordinates in the medical department, potability of water supplies, etc., are alleged to have intensified an antagonism, which culminated in DR. KERSHNER'S objection to sending an assistant-surgeon on board a British merchant vessel anchored near the flag-ship on the ground of the possible hazard from unnecessary exposure of the crew of the latter during the prevalence of yellow fever and the further fact that medical assistance from shore was readily obtainable. With many other American naval medical officers, DR. KERSHNER had had frequent experiences of the demands by British merchant captains for such service from the medical officers of neighboring American men-of-war, which whenever possible have been rendered gratuitously, although there is good reason to believe they appeared as substantial charges against the owners. Notwithstanding the fleet-surgeon's objection, a medical officer was ordered to make

the visit with the discovery that the case was trivial. The admiral thereupon reported the matter to the Navy Department with a very harsh arraignment of DR. KERSHNER as incompetent and the expression of his desire that another medical officer might be detailed in his stead. For these intemperate expressions he is said to have been sharply rebuked by the Department, and this would probably have been the end of the matter, had not a detailed statement of the affair appeared in a New York daily paper, upon which the Admiral instituted a court of inquiry to discover who had divulged the information on which the publication was based in violation of a regulation of the department forbidding such disclosures by officers of the navy. It was charged that DR. KERSHNER had at first emphatically denied having made such a disclosure to any one, but subsequently corrected his statement to the effect that he had not sent verbatim copies of the papers in the case to any one, but admitted that he had sent abstracts to the Surgeon-General of the Navy as head of his corps and to his old friend, Medical Director DELAVAN BLOODGOOD on the retired list; whereupon he was brought before a general court-martial for having, first, violated a regulation of the navy forbidding such unauthorized communications by officers, and, second, for having committed perjury in having sworn, in the first instance, to tell the truth, "the whole truth and nothing but the truth," which his subsequent correction, it was alleged, was evidence he had not done. It is significant, in this connection, to note that ADMIRAL MEADE himself was credited, not long after, with having committed a similar breach of regulations in a published interview with a newspaper attaché, which he declined to affirm or deny. Had DR. KERSHNER been equally prudent and reticent, he would probably have escaped with a reprimand for the violation of regulation with which he was charged. That DR. KERSHNER willfully committed perjury, his associates during his thirty-five years' service in the navy, both of the line and staff, are not disposed to admit. He is a prominent member of the New York Commandery of the Military Order of the Loyal Legion of the United States, and one of the oldest members of the Union League Club of New York, where undiminished confidence in his integrity is entertained, a feeling shared by his fellow professors in the Post-graduate School of New York. In view of DR. KERSHNER'S long and faithful service, it is a matter of regret that the President was not able to see his way clear, as he would doubtless have been very glad to do, to a mitigation of the severe penalty for the violation of a regulation, committed under the sting of the contumelious comments of ADMIRAL MEADE, and the misapprehension which led to the apparent evasion before the court of inquiry.

This incident shows the necessity for such an absolute definition of the military status and office of the navy medical officer, as governs the army medical officer, that an earnest, enthusiastic and sensitive officer, as DR. KERSHNER is represented to be by his friends and associates, keenly zealous for the care of the sick and well for whom he is responsible, shall not be led, in the conscientious performance of his duties as physician and sanitary officer, to incur the undisguised hostility of the officers of another corps.

POPULAR LUNACY.

In one of EDGAR A. POE'S stories there is given an account of a visit to a lunatic asylum, where the patients had turned the tables on their keepers and were running the establishment according to their own mentally vagarious notions. One of them, an exceedingly conscientious young female, had gotten the idea that the wearing of clothing was highly immodest and immoral and proposed therefore to return to her birthday costume or that originally the fashion in Eden. It was, however, considered even by her fellow lunatics an evidence of insanity and she was restrained from imitating too closely her mother Eve, in her state of primal innocence.

A case that has recently created quite a stir in Great Britain suggests POE'S story in one or two of its details. A young woman, highly educated and of good social position, and of good prior reputation, suddenly asserted her conviction that marriage is immoral and her intention to at once go and live in concubinage with a workingman. She was declared insane by an eminent authority, but from here on, the case differs from the story; the public was not as discerning or as decent as the lunatics; the socialists, MR. JOHN BURNS at their head, took up her defense, and the Commissioners in Lunacy, presumably at their instance, examined her and discharged her from custody, it is said, as not presenting any definite type of insanity. The examination was brief, only one hour is said to have been consumed, and the suspicion that it was imperfect and the resulting action stimulated by the clamor of the lady's socialist supporters is rather justified than otherwise.

Whatever may have been the actual condition of the woman the moral of the decision is this: Insanity must be of a definite type, no new forms are to be discovered, our knowledge of it is exhaustive. This is an opinion that, however satisfactory it may be to the legal mind, can have no medical standing whatever, its mere statement is a *reductio ad absurdum* in itself. Again it is a claim that two officials can in an hour obtain a better insight into a case than an expert and a family physician with full knowledge and continuous observation. The only alternative to these suppositions is the assumption that the commissioners acted under the influence of a popular prejudice and were guilty of releasing a probable lunatic to disgrace herself and her family without complete and full

investigation or examination. The case at best leads to rather unsatisfactory conclusions as to the absolute perfection of the English lunacy methods.

There is still another point which it strongly emphasizes, namely, that no matter how absurd or outrageous an individual may act, the popular prejudice against the restriction of his or her liberty on the ground of insanity can be made effective on almost any pretext. The public *en masse* is not a rational being under such circumstances and mob law and its equivalents are as ready to release inconvenient lunatics at some times as they are to hang them at others. There is no other subject in regard to which public opinion and the lay press takes more opposed and irrational views, than that of insanity, and there is hardly another subject on which the judge-made law is more inconsistent. Whether there will ever be any perfect popular enlightenment on this subject is perhaps a question, it is too much to expect even if individuals are well informed, that acting collectively they will ever be altogether rational in their behavior, and insanity is certainly one of the subjects upon which the *vox populi* becomes too often the *vox diaboli* more than anything else.

It is especially unfortunate when individuals or bodies acting in a judicial capacity are influenced by such misguided public clamor or find it necessary or expedient to give way to it, as it can only cause infinite distress to innocent persons and tends to no public good.

NEW YORK OFFICERS AT VARIANCE OVER THE CLOTHING OF INSANE PATIENTS.

A disagreement has arisen between the New York State Commission in Lunacy and the Charity Commissioners of New York City regarding the clothing of the insane to be taken charge of by the former board in the Manhattan State Hospital. The latter board is litigating the question of providing new suits of clothes for the lunatics transferred by it to that hospital. Dr. C. F. Macdonald, of the State Commission, defends the exaction of new clothing as follows:

1. To reduce, as far as practicable, the danger of introducing contagious or infectious diseases into the institutions which were then sheltering about 13,000 patients, coming from all the walks of life and in widely different conditions of physical and mental debility, beside some 2,000 employes and over 100 officers, while the yearly admissions of new cases exceeded 2,000.

2. To put a stop to a then prevalent practice among county authorities of sending to State hospitals patients clad in filthy, ragged and worn-out clothing, which had to be discarded and often destroyed altogether, before the patient could be safely received in the wards.

It is notorious that the germs of such diseases have been introduced in this way into hospitals, and have there caused serious and in some cases fatal results. This danger is especially present and potential in the case of vagrants or tramps, or the outcasts of cities, who become insane. In order to guard against epidemics and protect the health and lives of these thousands of peculiarly susceptible persons, it was felt to be indispensable that the clothing should be new and not merely clean, but it was not insisted that it should be of a high grade. From a wide range of inquiries it was found that the average cost of sufficient clothing suited to the different seasons of the year need not exceed $10 per capita. Had the rule prescribed clothing, not new but simply "comfortable," it would have opened the way for continual bickering over the question of what in any case could be accepted as "comfortable."

If the decision of the Supreme Court, which will be appealed, be sustained, its effects will be most lamentable, since it will largely impair, if not render useless, an important safeguard erected in defense of health and safety for the insane inmates of State hospitals, now exceeding 19,000, beside several thousands of officers, attendants, nurses and other employes. An appeal will be taken, and a stay of judgment be sought, since the effect of the order is not confined to the one locality of New York city, but extends over the entire State. Meanwhile the Commission's order will be maintained until the question is finally settled by the court of appeals.

Aside from the harmful effect of the action of the charities commissioners in its bearing upon the patients of the Manhattan State Hospital, and upon those in other State hospitals, it is not conducive to the financial interest of the city of New York, since the yearly cost of new clothing if provided by the city for each of its insane when sent to the hospital, would not at a liberal estimate exceed $20,000, while if the State has to provide clothing in advance and pay for it out of the State treasury, the city's share of such cost, being based on its assessed valuation, would reach close upon $25,000.

THE JOURNAL SPECIAL TRAIN

Will leave the Central Station at Twelfth street and Park Row, Chicago, via the Big Four Route, at 12 o'clock Sunday, May 3, arriving Indianapolis 6:10 P.M., there to be joined by parties from Peoria, St. Louis and the west; arriving Cincinnati 9:05 P.M., Chattanooga 9:30 A.M. May 4, and Atlanta 3:10 P.M. the same day. Sleeping car accommodations will be provided at the following rates: Lower berths, Chicago to Atlanta, $4.50; full section, $9. Detailed information may be obtained from this office.

CORRESPONDENCE.

American Ophthalmologists Not Ashamed of Their Work.

DENVER, COLO., March 25, 1896.

To the Editor:—The JOURNAL for the 21st inst., under the heading, "Ashamed of What They Should be Proudest of," contains an indictment of American ophthalmologists that must not pass unnoticed. The allegation that the American ophthalmologist obsequiously suppresses his own best work, on refraction and muscle balance, to court the favor of the "foreign distributor of distinction," is not sustained by the facts.

To require in medical literature that the number of papers upon each subject should be proportioned to the number of cases of the kind met with in everyday practice, would be to make it a dreary waste of profitless repetition and unsuggestive detail about minor ailments. But even by this standard the Transactions of the American Ophthalmological Society for 1895, which furnished the occasion for the attack, have been misrepresented. The Transactions contain the following papers relating to refraction and the ocular muscles: Report on Six Hundred

and Twelve Cases of Convergent Squint, with Final Results of Operation; Amblyopia ex Anopsia; Recurrent Oculo-motor Palsy; Variations in the Power and in the Astigmatism of Thin Lenses in Oblique Centrical Refraction; Four Thousand Cases of Ocular Headache and the Different States of Refraction Connected Therewith; The Use of Strychnin in Insufficiency of the Interni; and a Note Concerning the Lens in the Eyes of Rodents. And these papers with the discussions upon them occupy 84 of the 214 pages of the transactions in question.

In the recent volume of the Transactions of the Section on Ophthalmology of the AMERICAN MEDICAL ASSOCIATION papers and discussions on similar subjects occupy 150 out of 350 pages, almost exactly the same proportion. But perhaps this charge of a lack on the part of American ophthalmologists of a proper respect for this part of their work, or of fear to avow it before European critics, is most completely met by the Transactions of the last International Ophthalmological Congress, held in Edinburgh. Of the ten papers of American authorship therein contained five are concerned with anomalies of refraction and muscle balance, and in the discussions on such subjects the small number of Americans present furnished two-thirds of the speakers.

The attack in question is equally uncalled for and unjustified whether it be regarded as against American ophthalmologists, or as against the American Ophthalmological Society, the only important rival of the Section on Ophthalmolology of the AMERICAN MEDICAL ASSOCIATION. One who has read the papers mentioned, and who can understand them, will recognize such expressions as "travesty of medical progress," or "caricature of conservatism," as inapplicable and absurd.

Of course it is impossible for one editor to prepare all the editorial columns of our great medical weekly, and I feel sure that you will not knowingly allow the use of those columns for the expression of private spleen or personal disappointment.

Cordially yours, EDWARD JACKSON.

Reply to the Article on Treatment of Aural Catarrh in the London Central Throat, Nose and Ear Hospital.

To the Editor:—In No. 9, p. 411, of this JOURNAL there is an article on "The Treatment of Aural Catarrh in the London Central Throat, Nose and Ear Hospital," that is liable to do harm, since it fortifies the position of the routinist, by allowing him to creep behind the walls of a large hospital. This article being typical of the standpoint of a great many physicians it would be treachery to let it pass without criticism.

Its author says: "I shall now proceed to make clear the method used for the cure of those varieties of ear disease, usually termed catarrh, and divided into acute non-suppurative, acute suppurative, chronic non-suppurative and chronic suppurative." Here the doctor undoubtedly speaks of the greatest number of those diseases that have their seat behind the drum, that is, in the middle and inner ear, and calls them "catarrh." What does that word catarrh mean? Where is the line clinically? Would it not be better to talk first about an accurate diagnosis? The writer speaks about the methods of "curing" them. When there is necrosis of the ossicles, or of the walls of the tympanic cavity, which I know from other men of this school are classed under the head of chronic suppurative catarrh, or when there are adhesions of the ossicles to those walls, which very often exist in those cases that they call chronic non-suppurative catarrh, did ever anybody see cures from the methods indicated? Cure means restoring, at least partly, normal and anatomical conditions and functions. It is not the purpose of these lines to show another way to reach that aim. For this there are text-books and papers, but I wish only to state that the way the article indicates will mislead.

The article correctly classes together acute suppurative and non-suppurative forms, but not because the one is a more severe form of the other. The reason for classing them together is that they are alike, the only difference being a perforation of the drum in one case, where this membrane is not so thick and offers less resistance. Pus is present in all ears afflicted with acute otitis media, as Bezold, Gradenigo and Knapp proved long ago.

The statement about adenoids is a matter of course, but I am thankful to the writer for giving this disease the place that is due to it. The subject of adenoids is not a fad of the specialists that will disappear again; but its high influence on the general condition, as well as on the special condition, of the surrounding organs, especially the ear, can not be overestimated. Because their removal is a nice and easy operation is not a reason why we should neglect it.

The paragraphs on chronic suppurative and non-suppurative catarrh have again the marks of routine treatment. I do not understand why, if such routine is adequate, those practical Englishmen should take doctors for such cures instead of nurses or intelligent waiters.

I think that the London Throat, Nose and Ear Hospital does not any longer occupy that standpoint. The days of the routinist in medicine are past; let them be past in otology, too. Let us start the reformation, however, in our own neighborhood. Let us instead study the conditions of each single case, then give it proper attention, and thus deserve the name of doctors and not treatment manufacturers.

DR. J. HOLINGER,
Lecturer Post-Graduate Medical School; late Assistant Illinois Eye and Ear Infirmary.

Death from Antitoxin.

WHEELERSBURG, OHIO, March 27, 1896.

To the Editor:—A most unfortunate and distressing accident occurred in the practice of Dr. S. S. Halderman, of Portsmouth, Ohio, on March 22, in connection with the use of antitoxin. A mild form of diphtheria was prevailing in the family of Mr. George Kricker, cashier of the Central Savings Bank, and the doctor administered the usual dose of antitoxin, as a prophylactic, to a little boy, 5 years old, in whom the disease had not yet appeared. The child, which had seemed to be in perfect health up to this time, was asleep when the injection was given, and in five minutes was a corpse. The doctor had withdrawn to another room to refill his syringe for use on another child, when the mother noticed the boy's lips puffing up and called to him that something was wrong with Willie. By the time the doctor reached the child, breathing had ceased. The killing fluid which thus acted with far more rapidity than a fatal dose of morphia, arsenic or strychnia given per mouth would have done, seems to have caused death by paralyzing the heart. At least that is the cause assigned in the death certificate. The serum was Behring's, fresh, injected beneath the scapula and in the usual way. The doctor, one of the the first to introduce antitoxin into medical practice in Portsmouth, was an enthusiastic advocate of serum therapy, and presumably used all the precautions which skill and experience can suggest. This terrible accident, therefore, can have but one meaning. It furnishes absolute proof of the inherent danger of antitoxin as a therapeutic agent.

Cautious scientific observers have insisted from the outset that a substance capable of acting on the economy with the alleged effects of antitoxin must necessarily be a powerful agent. Hence many conservative physicians have hesitated to employ the new remedy. The older men remember—aside from the new fads which have been constantly coming up—how it was with chloroform forty years ago. The highest medical authorities then insisted that it was perfectly safe when

administered with proper precautions. It was reported to have been used in 25,000 cases in the Crimean war and in 9,000 cases in St. Bartholomew's Hospital, without a single accident. Standard medical works sanctioned these reports. And no one will ever know how many deaths resulted from the recklessness engendered in the medical profession by this false attitude of the enthusiastic believers in chloroform.

So with antitoxin. Whatever may be the final verdict of the profession as to its merits as a remedy in diphtheria, the fact should not be lost sight of that it is a most powerful agent, that the contraindications to its use are not yet well ascertained, and that it can be an active instrument of great evil as well as possible good. It is not often that the evidence of the ill effects of an alleged remedy is as clear as it is in this case. Given as a prophylactic to a healthy child, disease can not be credited with any share of the result. No one can doubt that antitoxin kills, and that, too, right speedily. JAMES L. TAYLOR, M.D.

The A. M. A. Badge.

WILMORE, PA., March 25, 1896.

To the Editor:—In a late number of the JOURNAL my attention was called to an article written by Dr. Stewart, of Detroit, Mich., as regards a permanent badge for the AMERICAN MEDICAL ASSOCIATION. The article comes in a good time and I have often wondered that as yet nothing has been done through the JOURNAL, or at the yearly meetings of the Society, in the matter of choosing a badge for the Society, and am glad to see that Dr. Stewart has at last placed the matter so clearly before us as a Society. We surely know that the AMERICAN MEDICAL ASSOCIATION has been founded nearly a half century and can venture on a badge when every order or society, great or small, from the Masons down, are well known and readily distinguished by a badge. And it appears to me there would be no better time to decide on this matter than at the meeting at Atlanta, placing the matter in the hands of a committee with instructions that the badge shall be ready to issue at the fiftieth meeting of the ASSOCIATION, which will occur in 1897; and by the way, has there been any movement as yet to decide whether or not the Society shall hold its fiftieth meeting at Philadelphia, the place of its birth? It would be appropriate to do so in many ways, and would be the means of bringing a large number of members to the city and no doubt at the same time adding a large number of new members. Let us hear from other members on this matter of badges.

IRVING C. BLAISDELL, M.D.

Medical and Surgical History of the War.

To the Editor:—Has there been a law passed for printing a new revision on the Medical and Surgical History of the War of the Rebellion which are to be distributed among the profession through the Congressmen in their districts? The Indiana State Board of Health moved for this bill for a new edition at their last meeting. H. G. GRAHAM.

ANSWER: The work has not been republished.

BOOK NOTICES.

Treatise on the Diseases of Infancy and Childhood. By J. LEWIS SMITH, M.D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College, New York. New (8th) edition, thoroughly revised and rewritten and much enlarged. Handsome octavo of 983 pages, with 273 illustrations and 4 full-page plates. Cloth, $4.50; leather, $5.50. Lea Brothers & Co., New York and Philadelphia. 1896.

For more than a quarter of a century Smith's diseases of children has been a standard book of reference, and a text-book. In advanced age, and with ripened judgment, the distinguished author has revised the book, and this eighth edition the reader will find quite up to date. Dr. Smith has always been a safe counselor and a conservative one. This characteristic is as apparent now as in the early editions. In regard to the Roux antitoxin treatment of diphtheria, after mentioning the established remedies, he says: "The remedies which we have mentioned are in my opinion the most efficacious and safest of those which pharmacy has heretofore furnished, but a new remedy, known as 'antitoxin,' has been so highly extolled by many eminent physicians as a remedy for diphtheria, that this new remedy demands attention if not employment, wherever this fatal malady occurs." The author then quotes at length from Roux's paper at the Buda-Pesth Congress, and gives his statistics. He quotes, p. 378, the favoring statistics of Saw, Turner, Widehofer and Caille, and *per contra* says: "We can not write so favorably of the use of antitoxin serum in the New York Foundling Asylum. Since a reliable preparation was obtained from the Health Board, 31 cases were inoculated with the serum. The number of units employed varied from 500 to 2,200. The antitoxin was inserted under the skin on the first day in 12 cases, on the second or third day in 17 cases, and on the fourth or fifth day in 2 cases. Nineteen received the antitoxin once, 9 received it twice and 3 three times. Microscopic examinations revealed the Klebs-Löffler bacillus in all the cases, and the streptococcus in nearly all the cases, so that in all or nearly all the infection was a mixed one. The physicians who observed these cases and witnessed the necropsies and microscopic investigations could not resist the conviction that the broncho-pneumonia of which so many died was due to the streptococcus which was abundant in the lobules, and upon which microbe the antitoxin has little or no effect. Results: Recovered 14, died 17 (14 from broncho-pneumonia and croup). In four or five of the cases the benefit was very marked after the use of the antitoxin. It is seen that statistics thus far are favorable for the antitoxin treatment, but it must be recollected that the type of the microbe disease frequently changes, so that the experience of several years is often necessary to determine the full value of a remedy."

In regard to the treatment of typhoid fever the author holds that it can not be abridged or its course materially changed, and naturally the antiseptic treatment receives little notice. It is curious to see the term "scrofula" still retained in a chapter entirely separated from tuberculosis, but we suppose some vestiges of the past must be retained.

The surgical diseases of children are treated of by Prof. Stephen Smith with the well-known ability of that author, and brought up to date.

A Text-Book upon the Pathogenic Bacteria, for Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D., Demonstrator of Pathological Histology, Lecturer on Bacteriology in the Medical Department of the University of Pennsylvania, etc. With 113 illustrations. Cloth, 8vo, pp. 359. Price $2.50. Philadelphia: W. B. Saunders & Co. Chicago: W. T. Keener, Agent. 1896.

This book, which is well illustrated and carefully printed, is an excellent one; indeed, we can not too strongly commend it. The description of the methods of study of the pathogenic bacteria are set forth with such clearness that even the beginner may feel less reluctance to commence the study of a branch of medical science which has hitherto been considered as a bugbear on account of the difficult technique. There is a vast amount of information, and yet the work is not bulky and there is no mere padding. We might criticise some of the inaccuracies in the historical introductory, but they are not material, as the work is in itself so useful and generally worthy of commendation. In the first place Redi's books, "Generationem Insectorum," "De Ave Diomedea," "Experimenta circa varias Res Naturales," were published in one 18mo volume, Amsterdam, in 1686. The "experimenta naturalia" were made in 1662. In the frontispiece to the "De Insectis," a female

figure is seen seated at a table with her left hand resting on an open book, a scroll open before her, while with the right hand she is *adjusting the ocular of a microscope*, which is mounted on a tripod. In the frontispiece to the "Experimenta Naturalia," there is also a female figure, with a microscope, and an African presenting her with an egg, presumably that of a serpent. The name is "Franciscus" not "Francesco." We must take exception to the statement quoted from Agnew, that John Colbach, 1704, was the first to whom the "seminal thought of antiseptic surgery" may be traced. Theodoric of Bologna, about 1260 (d. 1298), distinctly taught that suppuration in wounds was a *pathologic* condition, due to prolonged exposure to the air, and he treated wounds with hot wine fomentations (dilute alcohol), in which he was followed by Henri de Mondeville, who, according to Nicaise, was a pronounced adherent of Theodoric's doctrine, and so taught in 1306. De Mondeville placed the lips of the wound in contact, after suppressing hemorrhage, and applied an antiseptic plaster, in which turpentine, resin and wax were the chief ingredients (for the avowed purpose of keeping out the air), over that he applied the hot wine-soaked dressings after the manner of Theodoric.

But we would not have our reader infer that Dr. McFarland's book is at all singular in its statements about the origin of the crusade against suppuration in wounds, and we have only adverted to it, in order to assist in setting right some prevailing errors in medical history.

Infantile Mortality during Child-Birth and Its Prevention. By A. Brothers, B.S., M.D. Visiting Gynecologist to Beth Israel Hospital, New York, etc. William Furness Jenks Prize Essay of the College of Physicians of Philadelphia. Cloth, 8vo, pp. 176, price $1.50. Philadelphia: P. Blackiston, Son & Co. Chicago: The W. T. Keener Co., Agents. 1896.

No one can read this monograph without coming to the conviction that the prize was worthily bestowed. The work, while mainly a compilation, shows such judicious and thorough gleaning in the field of medical literature, that nearly everything of value on the subject will be found. There are thirty-eight chapters in which the various causes of infantile mortality are fully discussed. The arrangement is logical, and it will be a very welcome addition to the library of the general practitioner, the obstetrician and the student.

ASSOCIATION NEWS.

Excursion Rates to Atlanta.—All railroads except those west of the Mississippi River have now granted the excursion rate of one fare and one-third. All who wish to avail themselves of the reduced rates must pay full fare to Atlanta. When starting, take the certificate of the agent at the place. This certificate, when signed at Atlanta, enables the owner to buy a return ticket at one-third fare.

PUBLIC HEALTH.

Treatment for Venereal Diseases Provided.—A law was passed in Massachussetts in 1895 requiring that every city in that State shall provide for the treatment, either in a hospital or as out patients, of indigent persons suffering from contagious or infectious venereal diseases.

Trichophytosis.—The report of the Bordeaux *Clinic* for dermatology, mentions several cases of genito-crural trichophytosis infected from cats, and refers to an epidemic of this disease in a large institution there, where several hundred students were affected at once, the infection probably being communicated by the riding suits worn in turn by the lads.

Must not Feed Garbage.—Whoever knowingly feeds or has in his possession with intent to feed to any food animal, except swine, any garbage, refuse or offal collected by any city of more than thirty thousand inhabitants, by contract or otherwise, it was enacted in Massachusetts in 1895, shall be punished by imprisonment in the jail or house of correction not exceeding thirty days, or by fine not exceeding fifty dollars.

Maine's Candy Law.—A law was passed in Maine in 1895 forbidding the manufacture for sale, or knowingly selling or offering to sell, any candy adulterated by the admixture of terra alba, barytes, talc, or any other mineral or metallic substance, or by poisonous colors or flavors, or containing brandy, whisky, rum, wine or any alcoholic liquor in liquid form or other ingredients deleterious or detrimental to health. Nor shall any person by himself, his servant, or agent of any other person or corporation offer for sale any candy under the name of brandy, whisky, rum or wine drops.

Tuberculosis in France and England.—It is something of a surprise to read in the *Progrès Médical* of February 19, that the deaths from this disease are three times as many in Paris as in Great Britain. It quotes Tratham's statistics that in 1870, the mortality from this cause in England and Wales was 2,410 for each million inhabitants, but since consumptives have been treated in special hospitals, this number has fallen to 1,468 in 1893. In Paris there were 4,158 deaths from tuberculosis during 1894, or almost three times as many as across the Channel.

Typhoid Fever in Duluth.—It is reported that the fever prevalence at Duluth has reached the amount of about 1,000 cases with thirty deaths, caused, it is believed, by the infection of the water. An inquiry disclosed the fact that the intake of the water company in the adjoining great lake was only 359 feet from the shore, was in a filthy condition, and was situated about 800 feet from the mouth of a large sewer. It appears that the superintendent himself has for a year or two procured water for his family from a spring several miles from Duluth. The city now compels the company to supply spring water to consumers without additional cost. The supply is said to be abundant and the quality of the water pure and excellent.

Commitment of New Hampshire Insane.—A supplemental act was passed in New Hamsphire in 1895 which provides that when application is made to the judge of probate, or the supreme court or any justice thereof, for the committal of any person to the asylum for the insane, said court or judge may appoint two reputable physicians to examine such person, with or without notice to him or her from said court or judge. The physicians shall immediately report the result to said court or judge, who may, upon such report and such evidence as can be produced, order such person to be committed to the asylum when there is sufficient reason for making such order. And the supreme court or any justice thereof shall at any time, with or without notice, upon application and due cause shown, investigate the question whether there is sufficient reason for the detention in said asylum of any person who has been committed thereto, and shall order his or her discharge when such order ought to be made, without the formality of a writ.

To Secure Better Public Instruction.—Two amendatory acts were passed by the New Hampshire legislature in 1895, one requiring the superintendent of public instruction to investigate the condition and efficiency of the system of popular education in the State, especially in relation to the amount and character of the instruction given to the study of physiology and hygiene, having special reference to the effects of alcoholic stimulants upon the human system and requiring him to recommend to school boards what he considers the best text-books upon those subjects and to suggest to them the best mode of teaching them; and the other requiring school boards to see that these studies are thoroughly taught in all mixed and in all graded schools above primary, and that well approved text-books upon these subjects are furnished to teachers and scholars.

To Prevent Blindness in Michigan.—Should one or both eyes of an infant become inflamed or swollen, or reddened, or should any pus or secretion form in the eyes or upon the edge of the lids, at any time within two weeks after birth, it shall be the duty, under penalty, according to a law passed in Michigan in 1895, of any midwife, nurse or other person having charge of such infant, to report it in writing, within six hours after discovery thereof, to the local health officer or some legally qualified practitioner of medicine in that city, town or district.

Sanitation in the Sixteenth Century.—We read in the *Annales de la Soc. Méd.-Chir. de Liége*, February, 1896, that the city of Lyons, France, possessed a Bureau of Health three hundred years ago, which was a model in many respects to the most advanced products of our own century. Its regulations provided for the declaration of contagious diseases, disinfection of residence, clothing, and bedding, and it is curious to note that the disinfecting materials employed comprised some of our best modern antiseptics, sublimate, arsenic, camphor and various essences. Our health officers will envy those of that day when they know that they were so supported by the authorities that they could enforce their regulations with penalties amounting to torture and even death in times of epidemics. "And glory to our soverign liege, King Henry of Navarre" for his royal endorsement of such measures!

Infection of Feces in Tuberculous Cattle.—The *Bulletin Médical*, March 8, reports a series of experiments undertaken to determine whether the Koch bacilli are eliminated in the excreta of cattle and thus become a source of infection. A one-year old bull was fed, June 3, 4, 5 and 6, a meal of a certain quantity of bread and a quarter of a tuberculous lung abounding in microbes. His fecal matters were collected from June 6 to 10 and 200 grams diluted in 100 c.c. of water. Two c.c. of the liquid thus obtained, filtered, was injected into the veins of the ear of two rabbits, during the following twelve hours. Fifteen rabbits were thus inoculated. Two died of septicemia, one of intoxication, and the rest became tuberculous, with the usual bacilli and symptoms. Besides these experiments a microscopic examination was made each day, disclosing invariably the Koch bacilli. The experiments proved beyond question that the feces of cattle are just as infectious as the sputa of persons.

Diseases to be Reported in Maine.—Cases of cerebro-spinal meningitis, of measles, of so-called membranous croup, of whooping cough, and of pulmonary tuberculosis, or consumption as it is commonly termed, it was enacted in Maine in 1895, shall be reported promptly to the local board of health of the town in which cases of this disease occur; and it shall be the duty of any householder who knows or has reason to believe that any person in his family or household has any of these diseases, and it shall be the duty of any physician who knows or has reason to believe that any person whom he attends or is called to visit, is affected with any of these diseases, to report the same to the local board of health. It shall be the duty of each local board of health to notify the State board of health of cases within its jurisdiction, of typhoid fever and of the diseases above named, and such notification shall be in accordance with the requirements of the blanks furnished by the State board.

Mortality in London in 1895.—The deaths of persons belonging to London registered during the year 1895, were 85,138, equal to an annual rate of 19.4 per 1,000 of the population, against 20.3, 20.9 and 17.4 in the three preceding years. The rate in 1895 was 0.4 per 1,000 below the mean rate in the ten preceding years 1885–1894, ulthough it exceeded by 2.0 per 1,000 the very low rate recorded in 1894. During the year under notice 11,466 deaths resulted from the principal zymotic diseases in London; of these, 3,574 were referred to diarrhea, 2,628 to measles, 2,289 to diphtheria, 1,480 to whooping-cough, 829 to scarlet fever, 611 to different forms of "fever" (including 5 to typhus, 596 to enteric fever, and 10 to simple and ill-defined forms of fever), and 55 to smallpox. These 11,466 deaths were equal to an annual rate of 2.6 per 1,000, against 2.8, 3.0, and 2.6 in the three preceding years. Infant mortality in London during 1895, measured by the proportion of deaths under 1 year of age to registered births, was equal to 165 per 1000, and exceeded by 16 per 1,000 the average in the 10 preceding years.

Wisconsin State Board of Health.—July, 1894, the State Board of Health of Wisconsin, adopted rules providing that no child should attend any public, private or parochial school without first presenting to the principal or teacher of the school, a certificate of a reputable physician that he had been successfully vaccinated. It adopted these rules under the provisions of law, which had been interpreted by the best legal advice that could be obtained in the State, to the effect that it was the duty of the State Board of Health to adopt such rules as in its judgment seemed necessary for the protection of the public health. In the winter of 1893, certain Christian scientists in the city of Beloit, objected to the enforcement of these rules, and obtained from Judge Bennett, a judge of the circuit court in that district, a mandamus which allowed their children to attend school, without being vaccinated, until such time as a hearing should be had before him. It is stated that this was brought about by the School Board at Beloit in attempting to enforce the rules of the State Board of Health. On June 7, 1895, the case was tried in Janesville before Judge Bennett, at which hearing the President, Dr. Marks and Dr. Wingate and another member, were present and gave evidence. The matter has been delayed ever since until a few weeks ago, when it was argued, excuses having been made by the court from time to time, of various kinds. It was then argued at great length on both sides, and the Judge took it under advisement, and has just rendered his decision, to the effect that the rules of the State Board of Health, requiring a certificate of vaccination as a condition precedent to attending the public schools, are illegal and void. He thinks that the statutes, R. S. 1407, 1408, 1409, b, c, d, do not attempt to give the State Board of Health power to make such rules, and that if the legislature attempted to do so, such legislation would be invalid as unconstitutional. He also thinks the rules are contrary to the provisions of chapter 187, relative to compulsory education. The case is to be appealed at once to the supreme court for a final decision, and it is expected to be placed on the calendar for August next.

To Ward off Malaria.—Professor Maurel's article on the "Prophylaxis of Paludism," reported in this JOURNAL, March 7, p. 493, was followed at the two last meetings of the Académie de Médecine, by an address by Laborde, on the "medical" means to abort malarial troubles. The fact that an animal can be rendered immune to a disease is so thoroughly established now, that it is no longer questioned. Since the day when hereditary epilepsy was warded off by administering bromid of potassium to the morbid generator or to the mother, the proof of medical immunity was established. Laborde stated that a medicine that will cure, will also prevent a disease if taken in time, and corroborated this statement with further facts in regard to the treatment of epilepsy with bromid of potassium, as a typical mineral preventive medicine. He also described the preventive action of colchicin in cases of gout where the disease was actually held at bay for years by small preventive doses taken at the first premonitory symptoms (Dose: three or four milligram pills in twenty-four hours, of the crystallized colchicin), as a typical vegetable preventive medicine. He dwelt at length on the possibilities of this preventive medication which is not yet appreciated as it should be, and exhibited some frogs and the effect of ourari, mentioning by the way, that he had succeeded in discovering the original plant from which it was derived and locating the essential principle of the drug, hitherto a secret process of certain tribes of the Orinoco

and Amazon valleys. To one frog he administered a fifth of a milligram of his preparation of ourari, and then gave this frog and another a tetanizing dose of strychnin. The ourarized frog showed no signs of tetanus, while the other presented a typical case of it. He insisted upon the fact that the study of bacteriologic processes is now essentially a study of the toxic products of the bacteria, and is thus analogous to the study of the effects of toxic medicines upon the body. All this was preliminary to the real subject of his address, the preventive of quinin in paludism.

He quoted numerous instances of persons exposed to the worst forms of malarial poison, who secured comparative immunity by small preventive doses of quinin. But this comparative immunity is only a proof of the grand results to be attained when it is recognized that the preventive dose must be a large one. His account of the experiences of American, English, French and Dutch ships and troops in ultra-malarial regions, was a most interesting record of what has already been accomplished in this line. He mentions Colin, Laveran, Kelsch and Kiener as the chief authorities on the subject, at present, and says that where we used to speak of the "miasm," we now say the "paludic hematozoa." We must wait another week for the continuation of this address.

Health Reports.—The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Louisiana: New Orleans, March 14 to 21, 41 cases, 36 deaths.
Ohio: Dayton, March 19 to 26, 4 cases.
Michigan: Bay City, Detroit, Imlay Township, Ionia, Marine City, Saginaw, March 14 to 21, smallpox reported.

SMALLPOX—FOREIGN.

Dublin, March 7 to 14, 2 cases.
Acapulco, March 6 to 13, 3 cases.
Bombay, February 18 to 25, 21 deaths.
Calcutta, February 8 to 15. 2 deaths.
Corunna, February 22 to March 14, 3 deaths.
Madrid, March 3 to 10, 8 deaths.
Montevideo, February 1 to 8, 7 cases.
Naples, March 2 to 9, 5 cases, 2 deaths.
Odessa, March 1 to 7, 5 cases, 3 deaths.
Paris, March 1 to 7, 2 cases.
Prague, March 1 to 7, 6 cases.
St. Petersburg, February 22 to 29, 27 cases, 7 deaths.
Swansea, March 1 to 7, 2 cases.
Tuxpam, March 1 to 7, 2 deaths.
Warsaw, February 22 to 29, 3 deaths.

CHOLERA—FOREIGN.

Bombay, February 18 to 25, 1 death.
Calcutta, February 8 to 15, 63 deaths.
St. Petersburg, February 22 to March 7, 2 deaths.
Fukuoka Ken (Japan) February 26, 1 case.

MISCELLANY.

French Congress of Medicine.—The next National Congress of Medicine in France will open at Nancy August 6. The subjects announced for discussion are: Prognosis of albuminuria; intravascular sanguine coagulations; serum treatment of diseases.

Honor for Professor Roentgen.—The Prince Regent of Bavaria has conferred upon Professor Roentgen, of Würzburg, the Knight's Cross, one of the Bavarian orders. This decoration carries with it the right to the particle "von."—Berlin corr. *British Medical Journal*, March 21, 1896.

Sale of Liquors in Indiana Drug Stores.—By the Indiana law of 1895 it is made unlawful for any spirituous, vinous or malt liquors to be sold or given away in any drug store in any quantity less than a quart at a time, except upon the written prescription of a reputable practicing physician.

Medical Supervision of Prisoners.—A law was passed in Massachusetts in 1895 that the commissioners of prisons shall make rules from time to time for the several jails and houses of correction, which shall secure such medical examination of and medical authority over prisoners confined in solitary cells for punishment as shall, as far as practicable, prevent injury to the health of such prisoners by such confinement.

Physicians in Germany.—Statistics show that our profession is increasing in Germany at the rate of 5,433 members, or 22 per cent. during the last seven years. They average 4.07 to 100 square kilometers, but some localities are specially blessed, like Tübingen, which has 3.2 per 100 inhabitants. The general average is 4.5 per 10,000 inhabitants.

Medical Register of Great Britain for 1896.—The Medical Register for 1896, which had just appeared, contains 33,601 names. The number of qualified men added during the past year was 1,446, a number slightly below the average for the last five years. There were 538 names removed during the year on account of death. Only one name was struck off the register under the penal powers possessed by the General Medical Council.

Exported American Foods of Good Quality.—A cablegram from London states that before a certain official committee on adulterations, appeared the Secretary of the Board of Agriculture of Great Britain, and that he testified that among the samples of food examined by the government fifty-one came from the United States and thirty-nine from Canada, not one of which was adulterated. Germany, he added, made the worst showing, adulteration having been found in thirty-seven out of one hundred and twenty-four samples examined.

Prescriptions of Liquor in New Hampshire.—In New Hampshire a law was passed in 1895 to the effect that no physician shall give a prescription to any person for spirituous or malt liquor, wine or fermented cider, or upon which any such liquors are to be obtained, except upon reasonable evidence that it is actually needed by them as a medicine; and all prescriptions so given shall contain the full name of the party for whose use it is given, and it shall be taken up by the agent who fills it, and kept on file by him in his office and open to inspection by any person at any time. Any physician violating the foregoing provisions shall forfeit or be fined $50.

Periostitis Accompanying Typhoid Fever.—Whether this is caused by the typhoid bacillus, the staphylococcus aureus or others, is still undecided. A couple of cases reported in a Russian journal, disclosed in one the presence of a single bacillus resembling the Klebs' bacillus, in the course of repeated examinations extending over four years; the lower third of the left arm was affected, the inflammation appearing to come and go at intervals. Another case with a purulent inflammation in the bone of the left arm, presented constantly the same microbe in the pus and urine, which resembled the anthrax bacillus, only it had rounded ends. In both cases a slight traumatism preceded the infection, and the writer concludes that this periostitis can be considered an accidental complication of typhoid.—*Annals of Liège Med.-Surg. Soc.*, February.

Infectious Diseases of Wild Animals.—A disease resembling distemper is said to be killing the foxes in Gloucester County, Va. Large numbers of the foxes have been found sick or dead. A dozen foxes or more, when found by the hounds, made no run or fight at all and were killed, apparently being helpless and unable to put up a fight for life. Some years ago in West Virginia there had been deer plenty, but suddenly the deer were stricken with "black throat," or "black tongue," and died, being found all through the woods. Various other animals have been carried away in this manner, and there are steps afoot to kill off the Australian rabbits by the introduction of a bacterial disease. The nature of these epidemic diseases of wild animals should be made the subject of pathologic investigation by some of the medical fraternity on the outposts of civilization and specimens sent to the nearest laboratory.

"Medical Island" Sanitarium.—The New York *World* announces

a new substitute for the gold cure, namely, the establishment of an isolation sanitarium in the Pacific ocean. "Medical Island" is the name which has been given by a syndicate of physicians from New York, Paris, London and Berlin to a tropical island of volcanic origin, eleven days' sail from San Francisco. Here is to be elaborated a model sanitarium for the cure of the drink and opium habits. There will be no hotels or boarding houses, but in their stead there will be three handsome club houses without bars. Patients must consent to remain away from the continent for one year, and pay all expenses for that time in advance. The island is under the jurisdiction of Great Britain, from whom the syndicate will secure its needed concession. The scheme is a feasible one and will be adopted by some one, if not by this alleged and unnamed syndicate.

The Effect on the Taste-Buds of Severing the Glosso-Pharyngeal Nerve.—Baginsky has recently denied the assertions of Vintschgau and Hönigschmied that the cutting of this nerve causes the necrosis of the taste-buds. In order to settle the question Sandmeyer severed this nerve on one or both sides, in seventeen young and full-grown rabbits, on a level with the large cornu of the hyoid bone. The rabbits were killed four to forty-one days after the operation, and degenerative conditions were found in every case, from the slight indications of it in those killed in four days, to the entire disappearance of the taste-buds, after twenty-seven days.—*Centralblatt f. Phys.*, February 22.

The Prizes to be Awarded by the Paris Academy of Medicine.—Thirty-one prizes are offered annually by the Académie de Médecine for the best article on certain subjects. This year they are as follows: Prevention, treatment and cure of tuberculosis, insanity, cancer, etc., morphinism, epilepsy, melancholia, diseases of the ear, dysentery, diphtheria and malaria. Others are offered for the finest contribution to hygiene, medical science, medical history, therapeutics, medical statistics, surgery, internal pathology, heredity and the application of physics or chemistry to medicine, and others for any work on any medical subject that advances the progress of humanity, therapeutic surgery, and practical medical therapeutics. Others are for the best work on the study of the lymphatic system, and the relations between the thermogenesis and the respiratory processes. One prize is to endow a special scientific mission. Many articles have been received to compete for the prizes from many sources, but we do not notice any American names among them.

Febrile Albumosuria.—Krehl and Matthes conclude from various experiments that there is a certain albumose in febrile urine, or deutero-albumose, caused by bacteria, which disappears with the febrile conditions, but which will produce fever if introduced into another organism. They found the presence of albumose in the urine almost always coincident with febrile conditions, but in cases of ulcus and carcinoma ventriculi, there was albumose but no fever, and in a few cases of malaria and phthisis the fever was unaccompanied by albumose. The albumosuria disappeared simultaneously with the fever in the cases of scarlatina, diphtheria, influenza and parotitis infectiosa observed. Various tests showed that it was a deutero-albumose, and in cases of acute peritonitis, croupous pneumonia, erysipelas and scarlatina it was accompanied by an albuminoid precipitated by free ammonia, forming with baryta an almost insoluble combination, perhaps analagous with "Kossel's hyston."—*Centralblatt f. Phys.*, February 22.

Study of the Distribution of the White Blood Corpuscles.—Semakine announces that contrary to the statements of Rieder and Schultz, the white blood corpuscles are distributed evenly throughout the blood vessels. Analysis of the peripheral vessels is therefore a correct means of determining the number of leucocytes in the central arteries and veins. Hypo- and hyper-leucocytosis are therefore not only the expression of altered conditions, but also of an actual decrease or increase in the number of leucocytes. He warns investigators against the use of rabbits in these experiments, as they react to the slightest disturbance, such as fastening them to the board, or a slap on the head, with an alteration in the number of their leucocytes. The number of leucocytes in rabbits is also very much influenced by the opening of the abdominal cavity, exposing the abdominal organs to the air. It affects them similarly to a cooling off of the animal in general, which always diminishes the number of leucocytes. To this fact is due the decreased number of leucocytes found in the abdomen by Rieder and Schultz. If the abdomen is protected against cooling by the air, there is no difference between the number of them found here or elsewhere. Another cause of their error is that they operated on dying or dead rabbits, and death produces many changes in the distribution of the leucocytes.—*Centralblatt f. Phys.*, February 22.

Burdette's Rhymes on the Adulteration of Food.—All lecturers on physiology will be glad to have the following lines printed where they will be within their reach. The poet began his weird repast with some kind of bread that is raised with a plaster-of-paris baking powder, and so on:

A VICTIM OF DELUSION.

Placid I am, content, serene,
I take my slab of gypsum bread,
And chunks of oleomargarine
Upon its tasteless sides I spread.

The egg I eat was never laid
By any cackling, feathered hen;
But from the Lord knows what 'tis made
In Newark by unfeathered men.

I wash my simple breakfast down
With fragrant chicory so cheap;
Or with the best black tea in town—
Dried willow leaves—I calmly sleep.

But if from man's vile arts I flee
And drink pure water from the pump,
I gulp down infusoriæ,
And hideous rotatoriæ,
And wriggling polygastricæ,
And slimy diatomaceæ,
And hard-shelled orphryocercinæ,
And double-barreled kolpodæ,
Non-loricated ambroeilæ,
And various animalculæ,
Of middle, high and low degree;
For nature just beats all creation
In multiplied adulteration.

An Unusual Case of Bone Grafting.—Before the Medical Society of London, Mr. Waterhouse reported upon a case where it "was necessary to scoop out the body of the os calcis for the removal of tuberculous disease; a foot was left, in which this important bone was represented only by a yawning cavity, bounded by a thin shell of compact bone. The outer wall of the cavity was wanting and the floor was badly damaged. This resourceful surgeon," says the *Medical Press and Circular*, February 12, "thereupon requisitioned the collar bone of a lamb (part of a shoulder of lamb which had been served for the dinner of the resident medical officers of the hospital). He decalcified the bone by steeping it in hydrochloric acid, freed it from fat by washing it in ether, and then sterilized it by immersion in a solution of carbolic acid of suitable strength. The bone having been converted into chips was made into a paste with iodoform and packed carefully and tightly into the gaping cavity, over which the skin was securely sutured and the foot was then put up in an antiseptic dressing. It was not dressed again for a fortnight or so, and by that time healing was complete and has remained so ever since. We gather that this is the seventh or eighth case in which Mr. Waterhouse has employed this procedure with the same measure of success.

and on this ground the method commends itself for general adoption in this class of cases. We have seen a finger grafted on or into a nose, and a chicken bone used to patch up this or that small bone, but the utilization of a lamb's collar bone to build up an absent heel is as interesting, and even as extraordinary, as either."

A Charge of Plagiarism Turned to Good Account.—The *Medical News* adverts to an anonymous foreign charge of plagiarism against a certain American system of surgery. The sting of the condemnation is slyly extracted and converted into a balm of commendation. And this is the way it is done: "Scant attention need be paid to an anonymous paragraph that has appeared in an English periodical, charging plagiarism against the new System of Surgery by American authors, the concluding volume of which will shortly appear. The charge is devoid of details and the name of the accuser is withheld, so that more than a general and absolute denial of the truth of the statement is alone possible. American surgeons have neither need nor desire to borrow ideas or language from their English *confrères*. The derivation of illustrations from various sources is customary on both sides of the Atlantic, and is a practice common to nearly all medical works, without regard to country. The essence of the charge seems to lurk in the fear that the American System of Surgery would prove too successful a rival to native works, and hence the attempt on the part of English publishers to protect their market against competition. What higher compliment could be paid to the excellence of this latest production of American surgeons—the confession of fear to submit to rivalry?" But we understand that the work has been excluded from sale in Great Britain.

Asbestos in Boots and Shoes.—The *Medical Press*, February 26, states that a company has been formed to make boot soles out of asbestos, or rather to make asbestos a part of the sole. This material has the properties essential to a hygienic and comfortable footgear, being light and a non-conductor, and with "the mineral replacing leather or felt, as an inner sole, the boot may be worn on the hot flags of a city street on a summer day, or on slush or snow in winter, without the wearer being made uncomfortable by either. During the eighteenth century asbestos was much more used for wearing apparel than at present, even two centuries earlier the spinning of asbestos was a recoginzed industry in Venice. Signor Castaquatta carried the art to such perfection that his woven asbestos was soft and tractable, resembling dressed lambskin. He could thicken or thin the product at pleasure, and thus either make it a very white skin or a very white paper. Signor Ciampini describes the method of weaving asbestos thus: The stone is laid to soak in warm water, then opened and divided by the hands, that the earthy matter may be washed out. The washing being several times repeated, the flax-like filaments are collected and dried; and they are most conveniently spun with an addition of flax. Two or three filaments of the asbestos are easily twisted along with the flaxen thread, if the operator's fingers are kept well oiled. The cloth also when woven is best preserved by oil from breaking or wasting. On exposure to the fire the flax and oil burn out, and the cloth remains pure and white, a light, durable, non-conducting fabric."

Purulent Pleurisy with Dead Streptococci.—Sterile pus has been found in various abscesses, hepatic and cutaneous, in pyosalpinx, etc., that did not disclose any microbes in the most rigid tests, or showed traces of them with the microscope, although cultures and inoculations remained negative. These differences are due merely to the stage at which the experiments are made. The *Archives Clin. de Bordeaux* for February contains an account of a similar occurrence in a case of purulent pleurisy accompanying pulmonary tuberculosis. An operation for empyema resulted in the withdrawal of 1,800 grams of fetid pus, followed by marked improvement in the condition of the patient. Numerous tests and cultures of all kinds with the inoculation of a couple of rabbits all remained negative, as far as the development of the streptococci, which were present in large numbers, was concerned. They must have been dead, killed by the toxins of which they were the original cause. This refutes the theory of some that the disappearance of the microbes in abscesses of the liver is due to a special secretion of that organ, as we see that it occurs in other parts of the body. In the above case the tubercle bacilli were not at all virulent, and could not have been the cause of the suppuration. One rabbit inoculated showed no trace of the Koch bacilli, and in the other, the only result was a white swelling (tuberculous) in two joints. No other microbes were found in them after they were killed.

Meta-pneumonic Purulent Pleurisy.—By this is meant that form of pleurisy which accompanies or follows pneumonia and persists as a separate disease. It is often mistaken for conditions left by the pneumonia, and treated incorrectly, so that it is important to study carefully its indications. In pneumonia proper the pneumococci die in the products of their own secretions, but sometimes they survive in the pleura, and cause the phenomena we call meta-pneumonic pleurisy. The patient is recovering from the pneumonia; all is going well, and medical attendance often discontinued. But in a few days the improvement ceases; the patient feels worse again, with slight fever in the latter part of the day. All causes are ascribed except the right one. The diet is changed, bowels loosened, chest blistered, perhaps, weakening the patient and hindering correct diagnosis. If the signs of pleurisy are not very marked, and they seldom are, incipient tuberculosis is assumed, and supposed to be the cause of the emaciation, cough, fever and night sweats. This goes on until some other physcian sees the case and examines it without prejudice, and discovers the indications of a purulent effusion, or until the effusion is absorbed or finds its way to the surface, to the surprise of all. An exploratory puncture should always be made in such a case, and sometimes it will have to be repeated two or more times before certainty is attained. The above is from an article by Professor Desplats in the *Jour. des Sci. Méd. de Lille*, February 15, including observations of several cases in his own practice. He adds that of the five ways in which this disease terminates: Absorption, vomiting, empyema, formation of a cyst and extension of the infection, almost all require surgical assistance, and vomiting of the pus should be forestalled, as it is apt to persist a long while and end in death.

Advice to Medical Writers.—The editor of the New York *Polyclinic* offers a semi-decalogue to those of its friends who send to it carelessly written articles. As those friends will not have time to look at the hints, we will print them for our own use and for that of our friends—the readers of papers. The *Polyclinic's* five cardinal points for authors are: 1. "In your writing be, above all things, *purposeful;* afterward, concise, relevant, definite. 2. The subject selected should contain but one definite line of thought; should not be trite; should be one in which you are personally interested; if argumentative, one in which you have convictions. It should be suited to your abilities and to your opportunities for forming a correct judgment and should be no broader than the essay itself. 3. Make an outline of your subject; it will enable you to read up accurately and profitably; it will afford mental discipline. 4. Be careful to pay attention to the elegance of your language; to such little things as correct paragraphing and punctuation. 5. Above all, remember that the analytical writer is the strong writer." In the body of the article the editor presents five considerations, minor, to him, apparently; but some of them of prime importance to audiences that need to sit and not get weary over *details and details and details*. These five other points, in our own language, may be condensed as follows: 1. Your audi-

ence should not be expected to do all the analyzing of your cases. 2. You need not go back to Galen and Avicenna and Sigault in every essay. 3. Where a similar line of therapeutics has been employed for a series of cases, the intelligence of your audience may be assumed to be sufficient to supply some of the gaps, as you pass with lighter hand over the later cases. 4. Make your preface short. "I will grant you," says the editor, "that there is a sort of hereditary precedent for scientific men, as a rule, to wander afield in their discussions, and to indulge in more or less verbosity of speech; but the writer, who, after an intelligent discussion of the subject, brings all the evidence to bear upon a definite conclusion, is bound to be the most respected while he who deals largely in words, sometimes utterly lacking in definiteness, will become more and more a bore, as medicine continues to make rapid progress toward becoming a science rather than an art." 5. Take down your long unused works on rhetoric and logic, if you feel that you have fallen into careless ways of composition or of argument. The above admonitions may be summed up in a brief commandment: Put yourself in the place of your audience as you pass along from point to point in your dissertation; be at once objective and subjective. Moreover, some of our ever-welcome medical writers find it not beneath their position to enliven their production with a dash of color of humor or personal narrative. But this is not always possible, the subject not warranting it, and with some it is impossible, the mental build of the author forbidding it.

Practical Notes.

The Treatment of Hydrophobia at the Institut Pasteur during 1895.—Pottevin (*Annales de l'Institut Pasteur*, February, 1896), reports the following concerning the inoculation against hydrophobia at the Institut Pasteur during 1895: Number treated 1,520, dead 2, mortality 0.13. This is the smallest death rate since the beginning of Pasteur's treatment. Of the persons who were inoculated 257 were foreigners and 1,263 French.

Method of Introducing a Sound in Cases of Apparently Impassable Stricture of the Urethra.—Gigli, of Florence, accomplishes this with an irrigation of the urethra with a hot solution of salicylic acid, introduced through a rubbr tube from a reservoir above. The edges of the opening are to be compressed with the fingers so that the liquid will not run out. It dilates the urethra so that in a few minutes the catheter can be introduced under the glass canula in which the tube terminates.—*Semaine Médicale*, March 11.

Treatment of Purulent Gastritis by Bismuth.—The fasting stomach is first washed out in the morning with a soda bicarbonate solution, and then a solution of 10 to 15 grams of subnitrate of bismuth in 500 grams of filtered water is introduced after it has been thoroughly shaken. The bismuth forms a precipitate on the walls of the stomach in about ten minutes, when the water is to be withdrawn, a delicate operation, as the bismuth is not to be disturbed.—*Revue Internat. de Méd. et de Chir.*, March 10.

Local Temperature in Disorders of the Urethra and Prostate Gland.—Barrucco announces in the *Gazz. degli Osped. e delle Clin.* of March 7, that he has found the local temperature of the greatest service in diagnosing diseased conditions of these organs. His sound is fitted with a thermometer inside, and promptly discloses any local pyrexia. The rectal sound also is provided with a thermometer. This article is from a large work on this subject which he is soon to publish, "Modern Instruments for the Cure of Disorders of the Prostate Gland and Bladder."

Otitis in Typhoid Fever.—The hearing is often affected in this disease. Botkin states as the results of observation in twenty-six cases, that he found in all but five an acute and bilateral inflammation of the outer ear. The inflammations that invade the ears in the course of scarlet fever and measles, are sufficiently familiar: but there are comparatively few observations recorded of these affections in typhoid, croupous pneumonia, etc. He concludes by recommending that the ears be examined as often and with as much care as the mouth and throat.—*Annales de la Soc. Méd.-Chir. de Liége*, from the *Mediciniskoe Obosrenije*.

Rapid Method of Estimating the Quantity of Sugar in Urine.—It is often important for the physician to know at once the amount of sugar in the urine in a case of diabetes, and yet the ordinary methods are too complicated to use at the bedside. To meet this want a writer in the *Bull. Méd. Par.*, November, 1895, announces the following formula as a rapid and accurate method: Count out into a test-tube 20 drops of Fehling's solution, heat this to the boiling, add the urine until the color test is sufficient, and divide the invariable number 100 by the number of drops taken; the result will be the proportion of sugar to the liter in grams and centigrams.—*Nouveaux Remèdes*, February 24.

A New Anastomotic Button.—Boari, of Ferrare, has applied the idea of the Murphy button to another organ and uses a similar contrivance in establishing an ureter-intestinal graft. He has never applied it yet to a human being, but it has worked finely in his experiments on dogs. Whether this operation is to be recommended at all, is another question. Some think it leads to a secondary nephritis caused by ascending infection, and have consequently abandoned it. It seems preferable to imitate, as much as possible, the natural processes, and therefore the operation of replanting the ureter in the bladder, as Basy performs it, is the one preferred by most.—*Gaz. Méd. de Liége*, March 12.

Anthelmintic Remedies.—The following recipes are republished from the last numbers of the *Allgem. med. Cent. Ztg.* in the *Annales de la Soc. Méd.-Chir.* de Liége, February, 1896.

℞ Chloroform. . . . . 4 grams.
Croton oil. . . . . 1 gt.
Glycerin. . . . . 30 grams.
Misce. Sig. Take at one time.

℞ Pure iodin. 0.75
Potassium iodid. 2.25
Distilled water 30.00
Misce. Sig. Ten drops three times a day.

℞ Croton chloral 4.05
Gum tragacanth. 0.01
Gum arabic. 0.25
Simple syrup. . . . . xxv gtt.
Misce. Sig. Fiant xxiv Pilulæ. Take four at night and four next morning, fasting. After a light breakfast take 100 grams of an infusion of senna to which has been added xv drops of alcohol containing 10 per cent. of chloroform.

Leucoplasia Buccalis.—Jullien presented a typical case of this disease at the February meeting of the Society of Dermatology at Paris, which had resisted every kind of treatment. The dorsum of his tongue showed the characteristic silvery patch, four centimeters long and one and a half wide. It is not painful and does not trouble him except slightly in speaking. He is a dyspeptic and has had syphilis, and was a great smoker at one time. The urine contained traces of albumin and sugar, with hemaphein, urohematin, uroerythrin, indican and bile. All the mineral constituents and the urea are present in enormous quantities. There is also hepatic insufficiency and excessive intestinal fermentation. Bacteriology has nothing to say in these cases. There are traces of hyperkeratosis, and Stansiale has shown that in leucoplasia there are elements similar to those found in degeneration of the epithelium. Other members present advised immediate recourse to thermo- or galvano-cauterization.—*Revue Int. de Méd. et de Chir.*, March 10.

Movable Kidney.—Guyon describes several cases of wandering kidney that have come under his observation, in the *Independance Médicale*, Dec. 3, 1895. He states that most frequently the kidney does not cause pain or very little. And when it

does, the pain is not in proportion to the amount of displacement. There are two methods of examining for a movable kidney, Guyon's bimanual exploration assisted by the special manipulation producing the sensation of "ballotement" as practiced in pregnancy, and Glenard's. To determine the lateral and transverse displacement the subject should be examined in the decubitus lateral on the opposite side. Beside the disorders due to displacement, it must not be forgotten that the ureter is liable to be obstructed, which may produce the symptoms of an intermittent hydronephrosis.

Comparative Merits of Potassium Iodid and Sodium Iodid.—The relative merits of these drugs is still an open question with many. Laborde and Sée deny any merit to sodium iodid, while others assert that the dangers of potassium iodid are such that the former should be given the preference in every case. Briquet has been making a careful comparative therapeutic study of them lately, and reports that the effect of potassium iodid is more marked in most cases than the other, equal to it in heart troubles, very much superior to it in disorders of the respiratory organs and in cases of dyspnea, as well as in certain rheumatic troubles. He concludes that the use of potassium iodid is to be preferred and that the toxic effects attributed to it have been much exaggerated.

Treatment of Prostatitis with Hot Water and Potassium Permanganate.—Abeille, of Nantes, has been very successful with an original treatment of gonorrheal prostatitis, which he describes as follows in the *Revue clin. d'And. et de Gyn.* After securing anesthesia of the urethra with cocain, he introduces a Nélaton sound No. 12, and connects it with a reservoir containing potassium permanganate at 1 per 4000 or 1 per 2000 according to the ability of the urethra to support it, at a temperature of 35 to 38 degrees C. The liquid passes through the sound up to the sphincter and flows out between it and the walls of the canal. When the penile portion is thus well irrigated the sound is inserted through the sphincter, without interrupting the flow of the liquid, and the bladder receives the same cleansing. If there is a strong desire to urinate the urine can pass out through the sound. With this treatment Abeille has aborted many a case of prostatitis which would have suppurated if left to itself.—*Revue Internat. de Méd. et de Chir.*,,March 10.

Novel Variety of Incontinence of Urine.—Albarran describes an unusual form of incontinence of urine, in the *Annales des Maladies des Org. Gen. ur.*, December, 1895. The subject was a degenerate, nervous girl who for nine years had been unable to control the flow of urine except when lying down. Investigation disclosed that the bladder and uterus were united with an abnormal adherence which caused the vesico-urethral sphincter to gape when standing or sitting, but in a reclining position, the weight of the uterus caused it to fall back, thus closing the sphincter. The organs were slightly malformed, but nothing serious. She was entirely cured of the incontinence by an operation in which an incision was made into the anterior wall of the vagina, extending from the neck of the uterus to the neighborhood of the urethra; the uterus was detached from the bladder with the fingers and scissors, and the space thus left stuffed with iodoform gauze. Fifteen days later the neck was treated with faradization three times. Fifteen months have passed since the operation with no symptoms of a relapse.

Formol in Ophthalmology.—Strzeminski has been making a study of this drug in the treatment of diseases of the conjunctiva, the cornea and blepharitis. He announces that it is ineffective in the latter, and only moderately successful in suppurative and gonorrheal conjunctivitis, in connection with nitrate of silver, which is the best medicine for them yet announced. It has no effect on trachoma in acute cases, but assists recovery in chronic cases, employed at intervals. But an ulcer of the cornea formol cures in seven to ten days. The hypopyon in one case disappeared in four days. In torpid cases of ulcerations, abscesses, etc., formol is not superior to the usual drugs employed. The explanation of these results is probably that formol is destructive to the staphylococcus, but is harmless as far as the streptococcus and the gonococcus are concerned, which confirms the observations of others who have tried it in the treatment of gonorrhea in the female. In conclusion the author warns against the use of antiseptics in cleansing the conjunctiva; sterilized water alone should be used.—*Nouveaux Remèdes*, February 24.

To Remove Hardened Wax from the Auditory Canal.—Laurens writes to the *Independance Méd.* to warn against the use of instruments of any kind, as it is liable to be followed by the most serious consequences. He recommends the syringe alone, well sterilized and filled with boiled tepid water. It should be introduced along the upper wall of the canal so that the water will sweep the plug out with it, and five times full is enough for one day. The greatest care should be taken to work gently, and stop at the first trace of pain or vertigo. The plug can be softened with the solution of carbonate of soda, 1 gram in 20 grams of glycerin and water. Ten drops of this are to be warmed and poured into the ear three times a day; the head should be held so as to keep it in the ear for a while and then a tampon can be inserted. The injection should be repeated in forty-eight hours. In case the plug of wax adheres to the meatus it should be seized with the pincers and held, while the injection is repeated until the plug comes out, when the canal should be wiped carefully with the finger wrapped in a sterilized rag, and a cotton plug inserted for a few days.—*Gaz. Méd. de Liége*, March 12.

Danger in Purgatives in Certain Cases.—A case of acute diffuse peritonitis with alarming symptoms was treated by laparotomy, when the small intestine was found twisted around the vermiform appendix in which there was a small perforation. The occlusion was complete, but fecal fluids escaping through the hole in the appendix, had produced a serious condition. Winiwarter describes his treatment of the case, with the removal of the appendix and an incision in the intestine to remove the accumulated gases. The abdomen was sutured without drainage, and the patient made a complete recovery. He remarks that in such cases there is scarcely any means of determining the presence of a perforation, yet if a purgative were administered, instead of the opiates he ordered, the increased peristaltic movement of the bowels would have forced fecal matter through the hole and a putrid, fatal infection would have been the result in all probability.—*Annales de la Soc. Méd.-Chir.*, de Liége.

Management of Placenta Previa.—This is one of the most serious incidents that can occur in parturition, and the physician will do well to be familiar with every method of handling it. Nijöhff describes in the *Nederl. tijdsch. v. Verlosk. en Gyn.*, 1895, No. 11, a case of this kind, showing how he treats it. He endeavored to turn; was unable to perforate the amniotic membrane with his finger, but by pulling it here and there, he succeeded in detaching it from the inner surface of the placenta. This caused that part of the amnion opposite the cervical mouth to protrude into the vagina, with such a pressure from the fluid, that it held the hemorrhage in check, especially when a tampon was inserted into the vagina, until the child was spontaneously delivered, only slightly asphyxiated. This method is no worse for the mother, while it gives the child a better chance than others, like Braxton-Hicks' for instance. The mortality from placenta previa, direct or secondary, has been much reduced in late years, but it is still higher than it should be.

Surgical Treatment of a Paralytic Twisted Foot.—Where the deformity consists in a functional defect in the peroneal muscles, Winkelmann suggests the grafting of the tendon of the muscles in the outer side of the leg, near the gastrocne-

mius. An incision along the outer edge of the gastrocnemius, extending to the upper part of the malleolus, exposes these muscles. Then with a transverse incision from the outer half of the gastrocnemius to the point where it joins the soleus, separate this half with an ascending incision, loosening the flap, and cut the tendon of the peroneus longus at the same level. If the parts have become dry, moisten the tendon of the peroneus brevis, and suture it to the central part of the peroneus longus. Beside this method Winkelmann suggests also the following: Complete transverse section of the gastrocnemius and division of the muscle into two halves, an inner and an outer; the first to the tendon of the peroneus longus, the second to the tendon of the extensor muscle of the toes. By this means the antagonists to the soleus, help dorsal flexion and also help to bring the inner side of the foot down to its normal position.—*Archivio di Ortopedia*, No. 1, 1896.

Effect of Chlorhydrate of Phenocol on Whooping Cough.—Vargas reports in the *Ther. Woch.*, 1896, No. 1, that after trying every remedy recommended for this disease, he found chlorhydrate of phenocol the one specific, in doses according to the age of the child and the severity of the attack. He disguised the unpleasant taste with syrup and in forty-two cases treated, he did not encounter a single evil result, no diarrhea, vomiting or erythema. It was rapidly eliminated in the urine; Hertel's test showed that it passed out of the body in twenty minutes after it was administered, continuing to be eliminated through the following fifteen to twenty hours. It subdued the paroxysms of coughing, reducing the number and intensity in from six to twelve hours. It should have been kept up for two or three weeks. He queries what can be the cause of this relief, and assumes that it has nothing to do with bacteria, as it is administered by the mouth, and thus does not come in contact with the membranous surfaces of the nose, throat or larynx. He ascribes it to the soothing effect of the drug on the trigeminal and laryngeal nerves, as evidenced by the first effect noticed, which is the diminishing convulsiveness of the spasms of coughing.—Reviewed in *Nouveaux Remèdes*, February 24.

Chinosol, the New Antiseptic.—The advantages of this new antiseptic over sublimate and phenic acid, are that it is so slightly toxic that the solution used could be drank with impunity. Three grams of it can be injected subcutaneously into a rabbit without danger, and yet it arrests the development of bacteria. A solution of 1 to 40,000 will arrest the development of the staphylococcus pyogenes aureus. While it is as powerful an antiseptic as sublimate, it does not injure the hands even in a 1 to 500 solution. It is sold in tablets readily soluble in water, so that the quantity can be accurately graduated. It is a neutral compound of oxy-chinolin, with no pronounced nor disagreeable odor. Kossmann recommends it in high terms, and mentions its only disadvantage, that it leaves a yellow stain on the hands and linen, which is easily washed off in clear water. He has used it extensively in his practice, with never a trace of subsequent intoxication or eczema. It has no caustic effect when used as a powder on wounds and ulcerations with profuse secretions, but it is in confinement cases that it is especially serviceable, for the general use of the nurse, as sublimate is too dangerous to be thus used indiscriminately, and phenic acid is too corroding in a 5 per cent. solution to wash the hands freely, while a weaker solution has no aseptic effect. —*Nouveaux Remèdes*, February 24.

Pott's Fracture Treated by Early Strapping.—The London letter of the *American Practitioner* recounts the case of a self-treated Pott's fracture in the person of a prominent London surgeon. Mr. Noble Smith, F.R.C.S., recently fell and received a Pott's fracture, the fragments being separated by more than an inch. He determined to try early strapping, early movement, and massage; this treatment was attended with the happiest result. Within half an hour of the accident the foot and ankle were strapped before any appreciable swelling had taken place, and the ordinary back splint, supporting the foot, leg and thigh, with side pieces, was applied. The strapping was lightly applied, with no attempt to apply pressure, and was daily adjusted according to the tension. The strapping was discontinued on the seventh day. On the fourteenth day plaster of paris splints were put on. From the first, very gentle movement of the ankle joint was submitted to. Avoiding disturbance of the fractured bones, massage was begun slightly during the first week and increased by degrees. On the twenty-first day Mr. Smith could bear the weight of the body on the injured leg. On the twenty-third day he walked with caution. On the thirty-second day he could flex and extend the foot nearly as well as the sound one, and on the thirty-fourth day he gave up crutches, using instead two sticks. On the forty-second day he walked two miles with sticks.

Treatment of Purulent Ophthalmia By Copious Irrigation.—Dr. Kalt reports that the number of cases of ophthalmia treated by him and his hospital colleagues by copious irrigations of potash as he has advised, is now 200, 31 adults and 169 newborn. He prefers permanganate of potash to permanganate of lime, as it is less irritating. For both, the proportion should be 1 gram to 3 liters of water at 25 degrees C. Permanganate of lime or potash 20 grams, distilled water 300 grams, a teaspoonful to a liter of water. Each eye should receive 1.5 liter of this fluid at a time. The first two days four irrigations should be made, three only with permanganate of potash; then three for two or three days; finally, two until the end. They should not be arrested until all secretion has disappeared for two days. If the affection lasts more than fifteen or eighteen days, recourse should be had to permanganate of potassium. The same journal from which the above is taken, the *Annales d'Oculistique*, contains a cautionary article by Dr. Van den Burgh, entitled "The Danger of Sublimate Lotions and Applications of Nitrate of Silver as a Prophylactic Method with Premature Children, as a Cause of Fibrinous Conjunctivitis." In it, the writer reports a case in which 1 per 1,000 lotions of sublimate during delivery, and afterward the application of Credé's method, that is, the introduction of a 2 per cent. solution of nitrate of silver into the conjunctival culs-de-sac, were followed by the development of severe fibrinous conjunctivitis which nearly caused the loss of both corneæ. He concludes that in the prophylaxis of ophthalmia of the newborn caustic substances, such as nitrate of silver, or those which are not well tolerated by the conjunctivæ of children, such as lotions of sublimate, should be proscribed. This rule should be absolute in children who are weak and sickly and those who are qualified as premature. As a prophylactic agent he prefers iodoform.

Washington Notes.

HEALTH OFFICE WEEKLY REPORT.—The report of the Health Officer for the week ending March 21 is as follows: Number of deaths (still-births not included), 130; death rate per 1,000 per annum, 24.5; death rate per 1,000 per annum for the corresponding week last year, 24.2. The rise in the death rate week before last was followed by an additional rise last week. The deaths reported to the health department numbered 130 as against 121 in the preceding week. Correspondingly the death rate advanced to 24.5 from 22.8 per thousand inhabitants. The principal diseases causing this mortality were those of the lungs, brain, heart and kidneys.

FOR THE CHILDREN'S HOSPITAL.—A matinee performance will be given at the National Theater during the present week for the benefit of the Children's Hospital.

TO PURCHASE A QUARANTINE STATION.—Speaker Reed's bill H. B. 7471, providing for the purchase of the buildings and contents comprising the quarantine establishment of the city

of Portland, Me., located on House Island, in Portland Harbor, has been referred to the Committee on Military Affairs.

THE SUNDRY CIVIL APPROPRIATION BILL.—The Sundry Civil Appropriation Bill was reported to the House on March 2. The committee omitted from the bill the provision of $19,000 in the last bill for Providence Hospital, $19,000 for Garfield Hospital and $34,500 for Howard University. As a substitute for the above omitted appropriation the following is introduced: "For the support and medical treatment of medical and surgical patients who are destitute in the District of Columbia, under contract or contracts to be made with responsible and competent persons or institutions by the Surgeon General of the Army, $38,000, or so much thereof as may be necessary. Provided that no payment shall be made under any such contract except for service actually rendered, for which specific compensation shall be provided under such contract."

MEDICAL SOCIETY.—At the meeting of the society held on the 25th inst. Dr. Clayton reported a case of uremia with high temperature complicated by opium poisoning. Dr. Burnett read a paper on formalin in ophthalmic practice, and Dr. J. T. Johnson reported a case of hysterectomy.

Cincinnati Notes.

THE ACADEMY OF MEDICINE has decided to assume the management of the present directory for nurses. An office will be established in the central part of the city and arrangements will be perfected whereby nurses can be had at a moment's notice either day or night. A committee consisting of Dr. N. P. Dundridge, Dr. R. W. Stewart, Dr. G. M. Allen, and Dr. Wolfstein was appointed to perfect the arrangements.

DR. CHAS. A. L. REED read a paper before the Academy of Medicine entitled "Appendicitis." He dwelt more particularly upon the histology, etiology and varieties.

THE ACADEMY OF MEDICINE LIBRARY is to be located in a special division of the Cincinnati Hospital Library.

DR. DAVID DE BECK recently presented to the Academy a case of sub-conjunctival cyst. The patient was a young colored woman in good health. There were three cysts in the right eye averaging about ten millimeters long and four millimeters in depth. One of the cysts was removed without rupture.

SURGEON FRANK W. HENDLEY, of the First Regiment of O. N. G., of this city, has recently completed a medical and surgical chest designed for both field and camp service. It is the same size as the old style army pannier and contains not only the necessary medicines but the instruments as well.

THE DREAD of an epidemic of smallpox at Dayton seems to be increasing. The workhouse cases are now four female inmates. One case has been reported in close proximity to the most aristocratic portion of the city.

AN EFFORT is being made to have the legislature pass a law increasing the strength of the Hospital Corps of the National Guard to twenty-four men and four hospital stewards to each regiment, instead of one steward and eighteen men as at present.

DR. JAMES T. WHITTAKER delivered an address, March 25, before the Unity Club on the subject of "Medicine and Surgery of the Queen City." [To be printed in this JOURNAL next week.]

THE ANNUAL APPROPRIATIONS from the legislature are presented as follows: Board of Health $6,250; Dairy and Food Commission $14,600; Athens' State Hospital $102,938; Cleveland State Hospital $99,945; Columbus State Hospital $165,501; Dayton State Hospital $100,125; Toledo State Hospital $144,260; Longview Asylum Hospital $116,000; Massillon State Hospital $100,000; Education of the Deaf $75,123; Institution for Feeble Minded Youth $120,411; Ohio Hospital for Epileptics $181,925; Institution for the Blind $41,561.

THE FOLLOWING are the appointments, announced by Governor Bushnell, to constitute the Board of Medical Examiners in accordance with the provisions of the Kimmel Bill, which was recently passed in Ohio, and which provides for the examining and licensing of all persons who desire to practice medicine in the State of Ohio: Dr. N. R. Coleman (R.), Columbus, 7 years; Dr. H. E. Beeby (H.), Sydney, 6 years; Dr. Chas. A. L. Reed, Cincinnati, 5 years; Dr. David Williams (E.), Columbus, 4 years; Dr. S. B. McGavran (R.), Cadiz, 3 years; Dr. Cady Markley (Ph.-med.), Toledo, 2 years; Dr. J. K. Scudder (E.), Cincinnati, 1 year.

Louisville Notes.

DR. C. T. POPE, physician to the Eruptive Hospital, has resigned his position owing to an order sent him by the Board of Public Safety, requiring him to spend all of his time at the hospital so long as there is any likelihood of smallpox developing in the exposed neighborhood.

LEGISLATIVE ACTS.—The following bills were favorably reported and passed by the Senate but owing to the political fight for United States Senator failed to pass the House: A bill to authorize coroners in counties with a certain population to employ coroners; a bill to establish the office of physician to the jail in counties containing a population of 150,000 or more; a bill to make the pharmacy law apply to all cities and towns in the State.

HOUSE OF REFORM.—The full text of the bill creating a House of Reform, for boys and girls, has just been published. This bill passed both houses and has been approved by Governor Bradley. There are to be two separate institutions, one for boys and a similar one for girls, the sum of $100,000 being appropriated for their establishment. The government of these institutions is to be vested in a board of trustees consisting of six persons, three women and three men, appointed by the Governor and approved by the Senate. Vacancies in the board, other than by limitation, are filled by nomination by the board, with the approval of the Governor. The trustees may be reappointed. Suitable sites are to be purchased, to consist of not less than one hundred acres, near some city or town, but not less than three miles of the corporate limits thereof. In the arrangement of the buildings, etc., all cells and bars are to be omitted so far as possible, and what is known as the "Cottage Family Plan," adopted. Each family house is to be occupied by from eighteen to twenty-five boys or girls, with matron, teacher and housekeeper, making it as far as practicable a well-ordered home. The objects of the institutions are described as not merely a place of detention, but of reformation of those who by reason of vicious conduct or moral depravity have rendered themselves a burden to their relations and society. Kindness, firmness and competency are to be required of those in charge. The board can bind those who are suitable for apprentices to parties until they are 21 years of age, the Trustees retaining supervision over them. Power is given the board to arrest any inmate who has escaped from the institution. The course of instruction mapped out is very comprehensive and complete. All youthful prisoners now in the penitentiaries or workhouses of the State, under 18 years of age, are to be removed to the Reform Houses as soon as they are established.

LOUISVILLE MEDICAL COLLEGE.—The Louisville Medical College held its annual commencement at Macauley's Theater on the 25th ult. There were sixty-two graduates. The following received the honors: First honor, gold medal and appointment on the Resident Staff of the Louisville City Hospital, G. E. Gavin, Alabama; second honor, gold medal, to W. B. Dickens, of Mississippi; third honor, two gold medals, to James Hess, of Virginia, and Rufus C. Pennywitt, Ohio. The salutorian was Dr. J. C. Laurens, of Virginia, and the valedictorian Dr. E. B. Hardin, of Kentucky.

CHILDREN'S FREE HOSPITAL.—The "Hospital Circle" held its annual reception on the 27th ult. at the hospital building, it being the sixth anniversary of the cyclone, the Children's Hospital growing out of the necessities arising after that visi-

tation. The hospital was incorporated Oct. 16. 1890, and received its first patient Jan. 23, 1892. During the past year 120 children were treated in the hospital, with 5 deaths. Many times the capacity of the institution was tested to its utmost. The financial report shows that from various sources $4,664.52 were received during the past year. The expenditures were $4,489.86, leaving a balance of $174.66. At present there are eleven endowed beds, $2,000 endowing a bed; and there are eight supported beds, $120 yearly maintaining a bed for that length of time.

KELLY.—Dr. Harris Kelly, son of Dr. Clinton Kelly, Dean of the Louisville Medical College, has been appointed physician to the Eruptive Hospital, vice Dr. C. T. Pope, resigned.

THE PUBLIC SERVICES.

CIRCULAR OF INFORMATION

For Persons desirous of enlisting in the Hospital Corps, United States Army.

The Hospital Corps consists of hospital stewards, acting hospital stewards and privates.

This Corps offers good pay and at the same time gives a training which will be of great usefulness in civil life. If promotion is in view, it opens the way to one of the best positions attainable by an enlisted man in the United States Army.

All enlistments are for the grade of private, but provision is made for the promotion of those who show themselves to be intelligent, capable, and trustworthy.

Original enlistments are confined to persons who are citizens of the United States, or who have made legal declaration of their intention to become citizens thereof. The term of service is three years.

Applicants must be between the ages of twenty-one and thirty years, unmarried, of good character and habits, able-bodied, free from disease, not less than five feet four inches tall, and able to speak, read and write the English language. Minor defects of vision that can be corrected by glasses are not regarded as a bar to enlistment.

They must defray their own expenses to the place of enlistment, satisfy the Recruiting Officer regarding age and character and be prepared to furnish evidence thereof. Their fitness for the military service can only be ascertained by examination at a recruiting station or at a military post.

Under the act of June 16, 1890, and *existing rules* prescribed by the President in accordance therewith, a man in his first enlistment, having served one year, may be accorded the privilege of purchasing his discharge at any time for several months thereafter, upon payment of a stipulated sum, the *maximum* purchase price being $120.

The following is the rate of pay as now established:

GRADE.	FIRST ENLISTMENT.		
	Pay per month.	Pay per year.	Pay for three years.
Hospital Steward.	$45 00	$540.00	$1,620.00
Acting Hospital Steward. . . .	25.00	300.00	900.00
Private	18.00	216.00	648.00

In addition to the rates enumerated above, one dollar per month is added during the third year of first enlistment.

Members of the Hospital Corps reënlisting within three months from date of discharge receive a further increase of pay for the fourth and fifth years of service, and a still further increase for each five years of continuous service. They also receive from the Government (in addition to their pay) rations, clothing, bedding, medicines, and medical attendance. They can deposit their savings in sums not less than $5 with any Army Paymaster, and for sums so deposited for six months or longer, interest at the rate of 4 per cent, per annum will be paid on final discharge. The deposits are non forfeitable except for desertion.

For those who have become infirm during twenty years' service, or who have been discharged for wounds received or sickness brought on in service, a comfortable home is maintained in the city of Washington. The sum of 12½ cents per month is deducted from each soldier's pay, to be applied toward the support of the Home. After thirty years' service enlisted men are entitled to be retired, and upon retirement to receive monthly three fourths of the pay allowed to them by law in the grade they held when retired, with an allowance for clothing and subsistence.

Furloughs to deserving men are granted during the term of enlistment when their services can be spared from their post of duty.

When a man is honorably discharged at the expiration of his enlistment or on account of sickness, his travel-pay is ample to carry him to the place of enlistment. By care and economy he can save from his clothing allowance a considerable sum payable to him on his discharge.

The accepted candidate for enlistment is usually sent at first to a Hospital Corps School. He is there given the instruction that is needful to enable him to do his duty intelligently, and to appreciate what are the requisites for promotion in the corps. When properly qualified he is sent to some military station for duty.

Privates who have served one year or more and who have displayed particular merit may be recommended to the Surgeon General for examination with a view to detail as acting hospital steward. If graduates in pharmacy, they may not be required to serve the full year of probation.

Under existing law promotion to a stewardship is not authorized until the candidate has demonstrated his fitness for the position by one year of service as an acting hospital steward. His application must be approved by the surgeon of his post and by the post commander, and must bear satisfactory certification as to character, conduct, general fitness and habits, particularly in regard to the use of stimulants and narcotics. Successful candidates examined at or about the same time take precedence for appointment, so far as practicable, in the order of relative merit as shown by the results of their examination.

Applications for enlistment, accompanied by testimonials as to character, physical soundness and special knowledge (as of pharmacy, cookery, mechanics, etc.), should be addressed to "The Surgeon General, U. S. Army, Washington, D. C." (Who authorizes enlistments); or candidates may apply in person to any recruiting officer of the Army, or *preferably to the medical officer of any military post or station.*

GEO. M. STERNBERG, Surgeon General, U. S. Army.

WAR DEPARTMENT, SURGEON GENERAL'S OFFICE,
WASHINGTON, D. C., March 23, 1896.

Emergency Ration Board.—The Secretary of War has appointed a board of officers, consisting of Major Charles Smart, surgeon; Major Charles A. Woodruff, commissary of subsistence; Major Ernest A. Garlington, inspector general; Captain Louis A. Craig, Sixth Cavalry, and Lieutenant William C. Brown, First Cavalry, to meet in the City of Washington, D. C., March 31, 1896. The duty of this board is to examine the reports of the boards which were convened in the several military departments to consider the subject of an emergency ration, together with such views and suggestions as the Major General commanding the Army and the Commissary General of Subsistence may lay before it. The board is called upon to make recommendations on the subject and to report upon the minimum amount of articles of food necessary to sustain a soldier in health and activity for a limited period while in active service in the field.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from March 21 to 27, 1896.

Capt. Charles F. Mason, Asst. Surgeon (U. S. Military Academy, West Point, N. Y.), is granted leave of absence for two months and fifteen days, with permission to go beyond sea.

Major Curtis E. Price, Surgeon (Ft. Sill, Indian Ter.), is granted leave of absence for two months, with permission to apply for an extension of two months.

First Lieut William F. Lippitt, Jr., Asst. Surgeon, will report in person to Major Henry S. Turrill, Surgeon, president of the examining board appointed to meet at Ft. Riley, Kan., on Tuesday, April 14, 1896, at 10 o'clock A.M., at such time as he may be required by the board, for examination as to his fitness for promotion.

The following named officers will report in person to Lieut.-Col. Charles R. Greenleaf, Deputy Surgeon-General, president of the examining board appointed to meet at San Francisco, Cal., on Tuesday, April 14, 1896, at 10 o'clock A.M., for examination as to fitness for promotion: First Lieut. Merritte W. Ireland, Asst. Surgeon; First Lieut. Benjamin Brooke, Asst. Surgeon; First Lieut. George M. Wells, Asst. Surgeon.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending March 28, 1896.

P. A. Surgeon B. R. Ward, detached from coast survey steamer "Blake" and ordered to the "San Francisco," holding survey on Chaplain J. J. Kane in London, *en route*.

Surgeon J. C. Wise, ordered to examination for promotion March 27.

Change of Address.

Butler, T. J., from 375 W. Monroe St., to 34 Throop St., Chicago, Ill.

Ferguson, H Milton, from 291 43d St., to 40th St. and Cottage Grove Ave., Chicago, Ill.

Kaull, Wm. M., from Chicago to Princeton, Ill.

Nixon, J. W., from St. Louis, Mo., to Soldier, Kan.

Richstein, J. J., from St. Louis, Mo., to Evansville, Ind.

Ragsdale, E. W., from St. Louis to Lone Jack, Mo.

Ragsdale, J., E., from St. Louis to Chapel Hill, Mo.

Snyder, H. L., from Macungie to Old Zionsville, Pa.

Schurtz, Perry, from 110 Monroe St., to Pythian Temple, Grand Rapids, Mich.

LETTERS RECEIVED.

Alta Pharmacal Co., St. Louis, Mo.; Allport, Frank, Minneapolis, Minn.; Atkinson, W. B., Philadelphia, Pa.

Bloomfield, E. M., Peru, Ind.; Barnes, W. N., Baltimore, Md.; Bernd, Henry & Co., St. Louis, Mo.; Battle, Lewis J., Washington, D. C.; Berger, S. C., Philadelphia, Pa.

Coakley, Jas. B., Buffalo, N. Y.; Collins, J. S., Carlinsville, Ill.; Castle, Wilmot & Co., Rochester, N. Y.; Casselberry, W. E., Chicago, Ill.; Chase, Arthur H., Concord, N. H.; Clark, L. Pierce, Sonyea, N. Y.; Cleaves, Margaret A., New York, N. Y.

Durand, Herbert, Hot Springs, Ark.

Elliott, A. R., New York, N. Y., (2); Eccles, R. G., Brooklyn, N. Y.; Emmet, Bache, New York, N. Y.; Eastman, Jos., Indianapolis, Ind.

Fell, Geo. E., Buffalo, N. Y.; Franklin, C. F., Philadelphia, Pa.; Foltz, T. H., Lima, Ohio; Fassett, Chas. Wood, St. Joseph, Mo.

Howorth Adv. Agency, The, St. Louis, Mo.; Hummel, A. L., Adv. Agency, New York, N. Y., (2); Hersey, Geo. D., Providence, R. I.; Haldenstein, I., New York, N. Y.; Harrison, W. K., Chicago, Ill.

Imperial Ball-Bearing Axle Co., Chicago, Ill.; Ingals, E. Fletcher, Chicago, Ill.

Jarrett, H., Camden, N. J.; Jonas, A. F., Omaha, Neb.; Jelks, J. T., Hot Springs, Ark.

King, F. R., Anita, Iowa; Kellogg, W. H., East Oakland, Cal.

Limmer, Geo. L., Peoria, Ill.; Lehn & Fink, New York, N. Y.; Lindley, Walter, Los Angeles, Cal.; Lentz, Chas. & Sons, Philadelphia, Pa.

Moody, M. M., Chatham, Ohio; Moody, G. H., New Orleans, La.; Montgomery, John, Ardoch, N. D.; McGann, Thos., Wells, N. Y.

Nance, W. O., Chicago, Ill.; North, L. G., Tecumseh, Mich.

Orient Electric Co., The, Youngstown, Ohio; Oxford Retreat, Oxford, Ohio.

Paquin, Paul, Laboratories, The, St. Louis, Mo.; Penton, A. B., Detroit, Mich.; Parke, Davis & Co., Detroit, Mich.; Poehler, F. T., Minneapolis, Minn.

Rogers, D. W., Chicago, Ill.; Ryman, H. M., New York, N. Y.

Steele, W. A., Marine, Ill; Schering & Glatz, New York, N. Y.; Sherk, H. H., Cramer Hill, N. J.; Schottler, G. J., Chicago, Ill.; Stallman & Pulton, New York, N. Y.; Smith, A. J., Galveston, Texas; Springer, W. D., Boise, Idaho; Seaman-Yates Dept., New York, N. Y.

Thompson, J. A., Charleston, Mass.

Wile, W. C., New York, N. Y.